NATIONAL MUSEUM OF VICTORIA

The JOURNAL OF THE DEPARTMENT of AGRICULTURE VICTORIA — AUSTRALIA

VOLUME XXXII
PART 12

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DECEMBER, 1934

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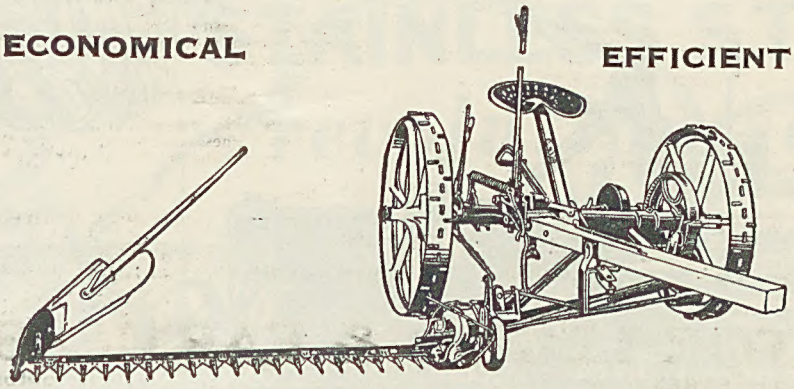

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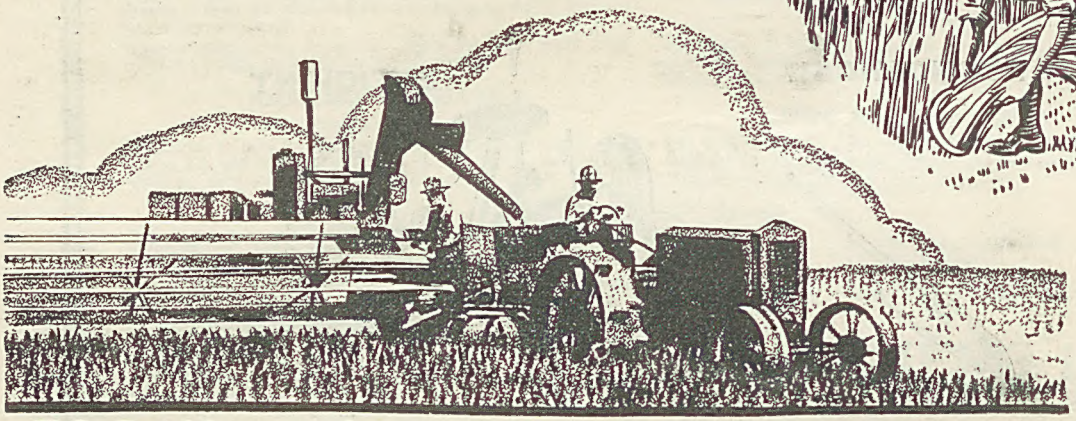

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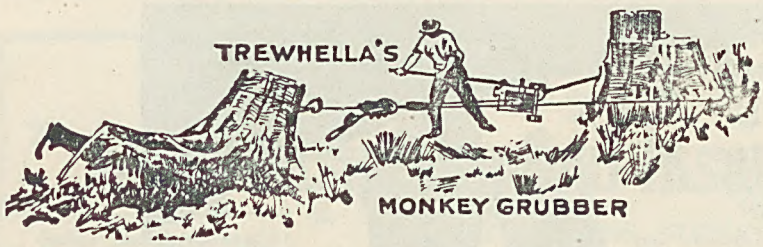

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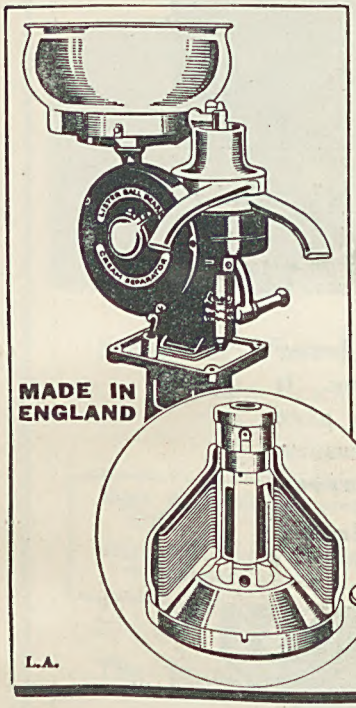

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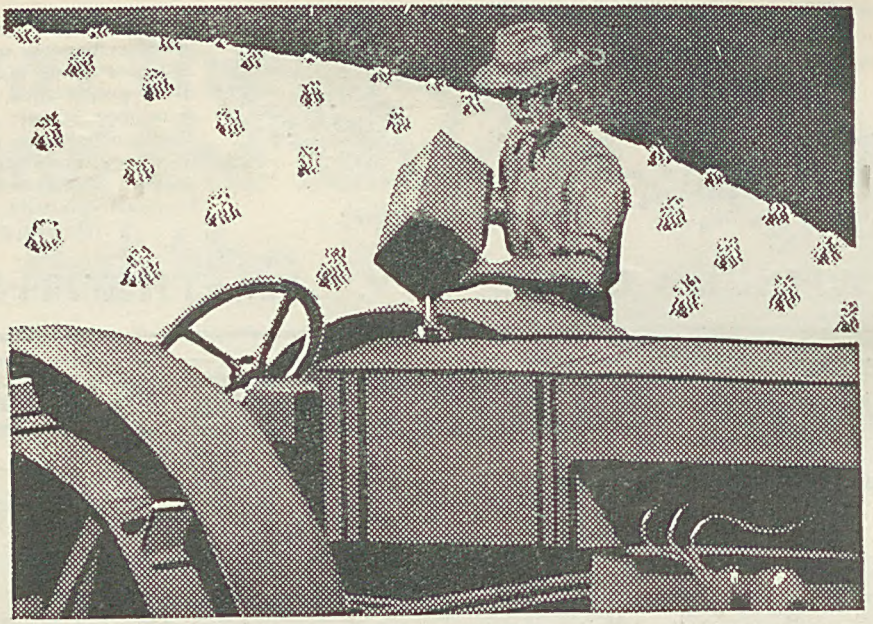

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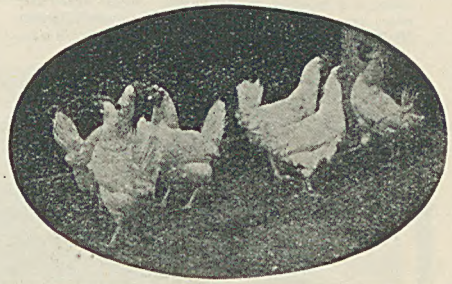

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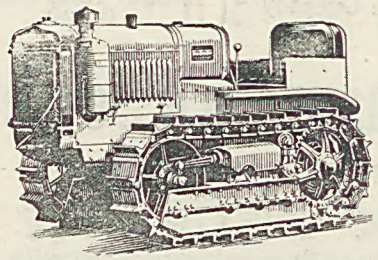
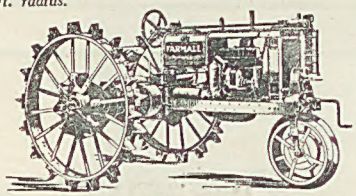
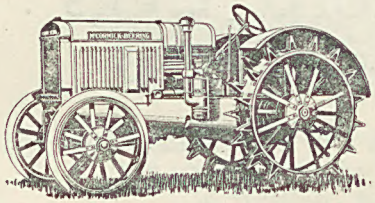


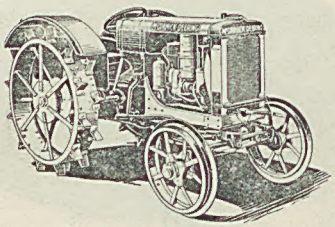
Illustrated above is the McCormick-Deering Model T-20 TracTracTor—the most accessible crawler tractor built. Sturdy, powerful, economical. Turns in a 6-ft. radius.



This is the McCormick-Deering Farmall 12, an ideal tractor for row-crop cultivation and general work. Turns in a 7-ft. radius. Also available—the Standard Farmall.



The McCormick-Deering 22-36 tractor illustrated above is a splendid general-purpose tractor which will prove its worth on any farm. The McCormick-Deering 10-20 tractor is similar in design, but smaller in size.



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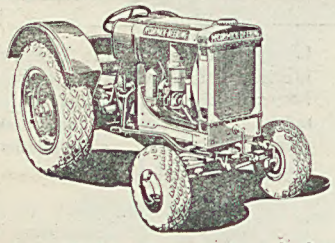

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NATIONAL MUSEUM OF VICTORIA

The Journal of the DEPARTMENT of AGRICULTURE of VICTORIA

Fruit Exports

Survey of 1934 Season

The following report was prepared by Messrs. F. White and S. R. McColl, officers of the Department of Agriculture, who are attached to the London office of the Agent-General for Victoria.

DURING the past Australian export season of apples, pears, &c., the following fruit was consigned in 55 steamers from Victoria to the ports set out hereunder :—

	APPLES.	
London	355,477	cases
Liverpool	83,475	,,
Hull	81,003	,,
Glasgow	32,548	,,
Hamburg	99,774	,,
Rotterdam	46,331	,,
Bremen	6,186	,,
	704,794	,,
	PEARS.	
London	216,207	,,
Total	921,001	,,

In addition to the above, 6,619 half cases of plums, 967 packages of grapes, and 32 trays of passion fruit were consigned from Victoria to London.

With one or two exceptions inspections were made at the steamer's side at time of discharge in respect to all apples, pears, &c., consigned to London; Liverpool was visited twice, and Hull once during the season. No inspections were made at Glasgow or at any of the Continental ports. Other inspections were carried out at the Spitalfields Auction Market, usually three times a week, on Monday, Wednesday, and Friday, also at Messrs. J. O. Sims at the Borough Market, when time permitted, and regularly at the principal merchants' warehouses at Covent Garden. Full details of the result of these inspections have been included in the reports of each shipment forwarded to the Department of Agriculture.

It should be noted that, in the reports of each individual shipment in respect to fruit examined at auction sale rooms, the comments on the condition and quality of the fruit (unless otherwise shown) are made on the samples which are shown on the auctioneers' benches for each separate lot put up, and on which buyers form their opinion of its value. Some large buyers also examine the bulk consignments at the docks.

With respect to fruit sold by private treaty merchants, a more thorough examination is made where facilities are afforded, and when any defect in any grower's fruit is seen, several cases are examined to confirm the general condition of the lot in question. The number of cases seen has not always been indicated in the reports, but it is proposed to give this information with respect to all inspections during next season's shipments.

Defects.

In the early shipments several lots of various growers were noted for a shortage of colour, and mixed colours, and most varieties were affected with bitter pit to varying degrees.

Shortage of Colour.—The Jonathan variety was the one suffering most from shortage of colour at the beginning of the season, and later, many lots of Rome Beauty were affected in the same way. Although the regulations under the Commerce Act do not provide for colour grading, growers should realize that buyers are demanding fruit showing good colour for the respective varieties, and that prices are influenced adversely through the failure of some growers to pay sufficient attention to this matter.

Bitter Pit.—The bitter pit trouble was very prevalent in Dunn's, Cox's Orange Pippins, Cleopatras, Rome Beauty, Granny Smith, Jonathan, and a few other varieties. As the season progressed excellent quality Jonathans arrived, full coloured and in fine condition. Bitter pit still continued to show, but to a lesser degree, in many marks of several varieties.

Codling Moth and Core Rot.—The London Pippin variety in some marks was seriously affected with codling moth, and in many instances core rot was associated with it. These apples generally were of very fine quality, clean skins, well-developed fruit in apparently sound condition; the diseases mentioned being noticed only when the apples were cut, or when the rot had developed to the extent of showing through the skin.

Grading and Packing.—Taking into account all consignments examined the grading was satisfactory, and where this was not so, attention has been drawn to the fact in the reports of individual shipments. We should like to point out, however, that many growers still continue to pack their fruit without any corrugated board linings, with the result that much fruit is bruised and cut by the rough timber and sharp edges of the cases by outward pressure. When fruit receives rough handling, as it frequently does, the damage caused is greatly increased. We are sure the initial additional cost of the corrugated boards would be more than offset in added value, when the fruit is sold.

Another important point we should like to emphasize is that careful grading has a big influence on the amount of bruising incurred. Well-graded fruit properly packed, even without corrugated linings, frequently opened up showing less bruising than badly graded fruit packed with the maximum protection. These remarks apply particularly to the hardwood dump case.

Influence of Type of Case on Bruising.—If apples are well graded and properly packed one case would appear to have very little advantage over another so far as bruising is concerned. This conclusion was supported in the experimental shipment of apples ex ss. *Port Fairy*, forwarded through the Council for Scientific and Industrial Research, which we closely examined at Messrs. Connolly Shaw Ltd., Spitalfields, and which was the subject of a separate report.

Prices Realized.

Early shipments of Australian apples did not bring the high prices which, in previous years, were associated with first shipments. The decline in values was due not a little to the competition of large stocks of American winesaps on the market, and to heavy shipments of New Zealand apples which were sold by auction sale at Spitalfields, and thus depressed the market.

Good quality and large sized culinary varieties, however, were in good demand, and made relatively satisfactory prices. Prices appreciated a little later on, but fell again towards the end of June with the advent of the soft fruit season. However the strawberry season was a short one, due to dry conditions, and prices recovered again to some extent. The one variety that made very satisfactory prices throughout the season was Granny Smith, which, it is estimated, averaged 14s. per case. Late varieties—Sturmers, Yates, Rokewoods—

Auction Room, London Fruit Exchange.

arriving at the end of July and early August, met a responsive market and made very good sales.

PEARS.

Taken as a whole, the pear season was a very satisfactory one as regards quality, condition, and prices realized. The first shipment of William Bon Chretiens arrived in splendid condition, and certainly justified the co-ordinated efforts and great care of those responsible for the shipment of this fruit, which hitherto had always arrived in an unsatisfactory condition. In all, 216,207 cases of pears were shipped from Victoria, and only a relatively small percentage of these opened up in otherwise than good condition.

Defects.

Forward Condition and Scald.—The outstanding trouble was over-ripeness and scald, and bruising of the ripe but sound fruit. The former trouble was very noticeable in the second consignment of William Bon Chretien ex ss. *Maloja*, and in certain other lots of other varieties throughout the season. Attention is invited to the individual reports of shipments for the particular lots concerned.

San José Scale.—The fruit of some growers was badly affected with San José scale from time to time, and attention is invited also to individual reports for details.

Grading and Packing.—Grading and packing generally were very good, and so far as bruising is concerned no advantage could be seen in the standard pear case over the "flat bushel" except with respect to very large pears. Although many excellent consignments were received in the standard pear case (three-quarter case), there were also consistently good packs from the Doncaster, Harcourt, and other districts packed in the flat bushel cases.

While many merchants advocate the standard pear case, others prefer the flat bushel case, as they maintain that the latter is a package more suited for transport to buyers in the provinces, with whom they have a very large connexion.

We have come to the conclusion that the type of case has little to do with the condition of the pears when opened up on the London markets. If the fruit is selected, and at the correct stage of maturity, carefully graded and packed, carried at correct temperatures, and *receives reasonably careful handling at this end*, it will open up in the best condition possible, irrespective of the type of case.

Large Size Pears (over $2\frac{3}{4}$ inches).—From time to time during the season our attention has been invited by some merchants to the quantity of very big pears included in their consignments. They say that the demand for large pears is always slow compared with the smaller sizes, with the result that much less is realized for this type of fruit. One merchant found also that this position influenced his market for the other sizes.

It may be of some value to report the experience of Messrs. Geo. Monro Limited, Covent Garden, in connexion with the disposal of some very large sized "Comice" pears. There were four cases in the particular lot, and the pears were of excellent quality. By offering the fruit in returnable trays, it was considered that better prices would be secured. The result justified the action taken, for the following prices were obtained:—

112 pears at 6d. each.
40 ,, 5d. ,,
108 ,, 4d. ,,

Although it is realized that growers must export their large pears with the other sizes, it is suggested that, perhaps, some part of the large *first quality* fruit be packed in single layer trays. Exporters should know the demand for the single layer type of package; but however this may be viewed, the result obtained in this instance appears to justify the shipping of some part, at least, of selected high quality pears in the single tray package.

When large sized pears arrive in a forward condition, we have invariably noticed that those packed in the flat bushel case show considerably more bruising and marking than those packed in any other type of case.

Arsenical Spray Residue.—During the season quite a number of apples and pears showed an excess of arsenical spray residue, and it is felt that growers should be warned on this matter, as although the fruit in question has not come under the notice of the health authorities, it will be, perhaps, only a matter of time when consignments will be held up on this account. When excess spray residue has been noticed attention has been drawn to the lots concerned, in the separate reports of each steamer.

Handling at Docks.—Fruit is not always handled at the docks during discharge in the best manner possible, and we believe that a fair amount of damage results from quite unnecessary rough handling, particularly in respect to pears. On several occasions we have taken action to stop this rough handling, which mostly occurs when the fruit is unloaded from the trucks, and carried by the stevedores to the respective stacks. The position will be watched carefully during next season, with a view to further action being taken if the trouble continues.

Packing Apples for Export.

PLUMS.

The market was ready for good plums at the opening of the season, prices up to 12s. a half case being obtained. Unfortunately many cases of most varieties developed internal discoloration after discharge, and although many growers received satisfactory prices the fact remains that the plums were variously affected with this internal discoloration. The "Trysome" plums, being a light-coloured flesh variety, were mostly affected with this complaint, and the trouble was more easily discernible therein. In one instance the plums were practically useless three days after discharge.

It should be mentioned that many buyers were not aware of the trouble at the time of purchase, and no doubt many housewives also, who used the fruit for cooking purposes, would not be aware of the defect.

On Covent Garden markets, however, one buyer in particular "fell in" over his purchase of the "Trysome" variety, and without doubt his experience would be broadcast to his friends in the trade. This variety in particular, and possibly other varieties, will be the subject of a more careful examination before purchase during the coming season. Unless the internal browning can be overcome in the "Trysome" variety, the discontinuance of its export is strongly advised.

We consider the discoloration may have been due to the temperatures at which the plums were carried, as it was noticed that those cases showing a frosted condition were the most affected. It is evident that the pear temperatures do not suit plums, and it may be that they should be carried at a higher temperature. We do not know how this can be done under present shipping conditions, but we believe there will always be some trouble with this class of fruit, until the optimum carrying temperatures are secured.

There appears to be an excellent opportunity to develop this trade at very remunerative prices if growers will pay more attention to the selection and packing of this fruit, and if this internal browning of the flesh can be prevented. It is essential also that plums be landed to open up in a very firm condition. It is far better to send them on the unripe side than to have them open up soft. Most of the plums are used for cooking purposes, and buyers will always purchase hard, unripe fruit in preference to the other. Even when the English plums are marketed in the early part of their season, it is a noticeable fact that, although they are always on the green side, there is always a demand for them.

Merchants' Reports.

The following are extracts from reports received from merchants who handled Victorian fruit during the 1934 Season :—

A Covent Garden Merchant :—"The season just finished has shown some improvement with regard to condition on arrival here of Victorian fruit. We had one or two lots arrive rather ripe, but none was really valueless as we have had in past seasons. As regards the packing of pears, we find that the dump bushel and the flat bushel are fairly well liked by buyers, although they complain that the latter are a few pounds lighter than the dump. The three-quarter case is definitely not liked here, and we often experience difficulty in disposing of them. Their price is usually two or three shillings less than the bushel package. We think that corrugated strawboard linings should certainly be used."

An Agent at Spitalfields :—"In the first place, we should like to suggest the adoption of a universal case containing a full 40 lb. of fruit. Here the New Zealand packers have an advantage over our Victorian friends, for in many instances their

cases contain 42 lb. of fruit, whereas the Victorian often scale under 40 lb. Again, although the policy of restricting exportation of apples adopted by the export council has improved matters, we feel there is further need for improvement in this respect, and suggest that the percentage of large dessert apples should be further reduced. The elimination of the large pears, such as 70's and 80's, is desirable, as their slow sale often adversely affects the values of the more popular sizes. Finally, we should suggest some restriction on the number of counts coming over. All varieties of apples and pears should be packed in four or five standard counts only, thus causing much less confusion to the buyers."

A Covent Garden Merchant.—On the whole, in our opinion, Victorian apples were better this year than last—in quality, condition, and packing. In detail, the following was our experience :—

Granny Smiths.—Very good quality. Condition, packing, and grading—good average, with one or two cases of spotted fruit.

Jonathans.—Quality—very good. Condition—very good. One or two cases of bruising and full ripe condition, whilst early in the season some Jonathans arrived shy of colour. (Some spot.)

Sturmers.—Quality—fair to good. Condition—fair to good, with some bruising and spot.

Rokewoods.—Quality—very good. Condition—very good. There was one isolated case of a small consignment which arrived badly affected by wet core, which had to be disposed of as quickly as possible.

Statesmen.—Quality and condition—good average.

Rome Beauty.—Poor quality and condition.

C.O.P.—Average quality. Condition—average, with cases of spotted fruit, and slight waste apparently due to wasp sting.

In our opinion the quality, condition, and packing of Victorian pears this season were *not* so good as last year. This applies especially to the Beurre Bosc variety, which mostly arrived in wasty condition, suffering in some cases from wasp sting. With regard to other varieties, our experience was as follows :—

Josephines.—Quality—good. Condition—good average, but many cases of full ripe fruit, and wasty condition.

Keiffers.—Quality—fair. Condition—rather wasty.

The packing of the Victorian fruit would be further improved by a layer of corrugated paper at the top and bottom of each box. Otherwise, we have no fault to find with the packing of the Victorian fruit. We have been greatly handicapped this season by lack of marking on the boxes, a great quantity of which has borne no grower's name whatever. When, as sometimes happens, there are four to six boats working in London at the same time, it is a matter of great difficulty to obtain our exact requirements according to specification, unless all packages are very clearly marked."

A Spitalfields Agent :—" The general appearance of the Victorian apples has been, in our opinion, well up to the average, if anything, better than some of the other mainland States, although in previous seasons this has not usually been the case. We have received considerable proportion of the Canadian style package from Victoria, and these boxes have usually contained well packed fruit of good appearance. One defect which we noticed in the Victorian fruit was the variation

Unloading Apples at the Grading and Packing Shed.

in the colour of Jonathans. Some parcels *ex* the same boat were quite well coloured, while others were almost green. The condition has been satisfactory, apart from a few parcels of London Pippins and Rome Beauties, which arrived in rather forward condition. The packing of pears has been satisfactory, the long bushel boxes being the usual type from Victoria. The pears seem to have travelled satisfactorily in this package, and while the trade here generally prefers the American bushel boxes, we do not think there is much to choose between the two. The condition of the pears has been fairly good, apart from one or two instances, in which it appears that the steamer has been at fault."

Another Spitalfields Merchant :—" Quality, &c.—The general quality and condition of the apples during the past season were satisfactory, although the early arrival of Jonathans showed considerable immaturity and some bitter pit, which was also noticeable in Reinettes and some Cleos. The shipment of immature fruit, in our opinion, should be avoided in future years, as this class of fruit gives a poor advertisement at the opening of the season.

Pack.—There was a general improvement in the packing of the fruit. However, we think that it is high time a definite package was decided upon for Victorian fruit, whether it be Canadian or Australian whitewood boxes. We are still of the opinion that the hardwood case *should be avoided*, and as the question of the type of container is controversial, we do not wish to enter into any deep discussion on the merits or otherwise of the two containers, except to confirm what we have said so often before, that in our opinion the Canadian case is the most satisfactory; but we repeat that one style of case should be adopted.

Distribution.—A great improvement should be made in this very important question, and whenever steamers are berthed, consideration should be taken of the time that these vessels take for the voyage, and the route followed, as the market is often overcrowded by the number of steamers arriving at the same time. It is all very well arranging a schedule in Australia at regular intervals, the thing to arrange is that there should be an interval between the dates of arrivals.

Elimination of Varieties.—The elimination of various varieties last season was a step in the right direction, which should be continued and improved upon in subsequent years. The size of the fruit should also be looked into, and nothing smaller than a $2\frac{1}{4}''$ should be shipped in the dessert varieties, and nothing larger than $2\frac{3}{4}''$. As far as the culinary varieties are concerned, nothing smaller than a $2\frac{1}{2}''$ should be shipped, and the size can go up to $3\frac{1}{2}''$.

It should be borne in mind also that London and Hull present the best opportunity for $2\frac{1}{4}''$ fruit dessert varieties, and a larger proportion of this size should be sent to these markets. Liverpool can also do with $2\frac{1}{4}''$, but a much larger percentage of $2\frac{1}{2}''$ should be sent, and Glasgow is by far the best market for dessert varieties of $2\frac{1}{2}''$ and $2\frac{3}{4}''$ sizes, and as few as possible $2\frac{1}{4}''$ should be sent to this market."

Agents at Covent Garden :—" Apples.—Generally speaking the grading and packing were satisfactory, but in many instances we found that growers did not use the corrugated cardboard liner or wood wool to protect their fruit against bruising or skin marking on the tops, bottoms, or sides where the apples touched the wood. The omission to make use of this protection is false economy, as very often the consequent loss occasioned by the damage to the fruit heavily outweighs any trifle which may have been saved. Of the varieties received the London Pippin showed the greatest amount of waste and breakdown. We had instances of parcels affected with both mouldy core and codlin moth damage.

Pears.—For the most part the packing was satisfactory, although, as in the case of the apples, some parcels came forward without liners, &c., As regards the Williams, some fruit arrived in frosted condition, which was due to faulty carrying in steamers, but apart from this the condition of the pears was variable. In some lots the fruit was in satisfactory condition, while in others it was very forward, and further we had cases of both hard green and full yellow pears being in the same boxes, which made it very difficult from the point of view of selling. Other varieties were quite fair. Three types of package were used in the shipments which we received, viz., the flat bushel box, the dump, and the three-quarter case. The flat bushel box and three-quarter bushel case are the packages more favoured by buyers. We advise discontinuance of dump box for pears.

Plums.—We only had a few shipments of these. The condition of a lot of the fruit was not good; in some instances it was frosted and in others wasty. Some small parcels were packed in a flat bushel case similar to the pears, while the bulk were in half cases. We do not recommend the use of these packages. We found the fruit badly packed, being placed loosely in boxes which were unsuitable for the carriage of soft fruit, without any attempt to protect the fruit from bruises or to make it look presentable in any way. To get the best prices plums should be packed in shallow trays with two layers of fruit in each tray, and each plum individually wrapped in tissue paper."

The Grasshopper Pest

Control Methods

By R. T. M. Pescott, M.Agr.Sc., Entomologist, and K. M. Ward, M.Agr.Sc., Assistant Entomologist.

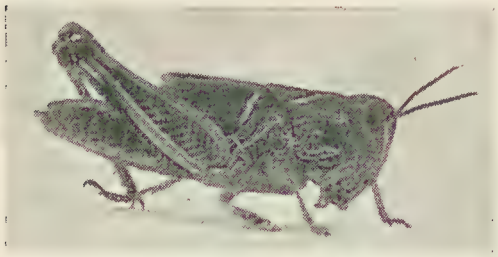
DURING the past month grasshoppers have been present in plague numbers throughout the Northern Mallee areas of Victoria, causing severe damage to pastures particularly, and, to a lesser extent, to crops. With outbreaks such as these immediate co-operative measures are necessary to prevent heavy losses being sustained by farmers in affected districts, and also to prevent the spread of the plague into other districts.

In those areas from which grasshopper swarms have been reported, very great success has been obtained in controlling this insect by the use of poison baits made from bran, molasses, arsenite of soda, and water. Every grasshopper killed in the early stages of the outbreak means infinitely fewer insects later in the season, when a second brood occurs. This second brood is capable of causing severe damage to early sown crops next season, so that wholesale destruction of the present "hoppers" will assist in safeguarding later crops.

A Swarm of Grasshoppers at Ouyen.

(*Herald* photo.)

There are two distinct stages in the life of a grasshopper. The "hopper" stage emerges first in the spring from eggs laid in the previous autumn; these remain as "hoppers" for a period of about six weeks, and at the end of that time develop wings. They are then capable of flight. It is in the "hopper" stage that grasshoppers are most readily controlled. Once the winged swarms occur, it is almost impossible to cope with the plague. These winged forms occur from mid-November onwards and commence to lay eggs, which hatch out a second brood of "hoppers" occurring from January onwards, and lasting perhaps through until April. The eggs are laid by the flying swarms in concentrated areas, usually on hard, bare, scalded patches, in paddocks, on channel banks or on roads, which may vary in area from several hundred square yards to several acres. It is essential that these egg-beds be located and definitely marked out, so that they can be treated with the poison baits when the young "hoppers" emerge.



The "hopper" stage.

Control Measures.

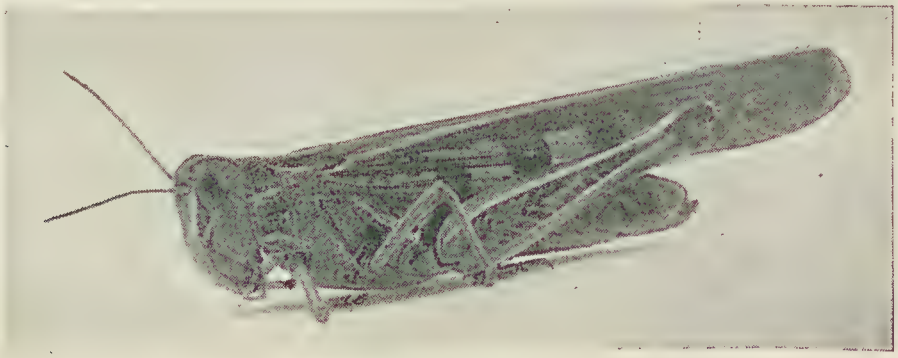
The first essential in the control of this plague is that the effort must be a co-operative one. Every farmer in an infested area should co-operate if success is to be obtained. Poison baits have been used in the affected areas with very successful results. The most suitable formula for the preparation of the bait is:—

Bran	4 bags (420 lb.)
Arsenite of soda ..	9 lb.
Molasses	75 lb.
Water	28 gals.

In the mixing of these quantities the following procedure has been found most satisfactory:—

1. Into a large tub (approximately 40 gallons capacity) place 19 gallons of water, and stir in the 75 lb. of molasses.

Wheat plants eaten by Grasshoppers, and normal plants from the same crop.



The winged Insect.

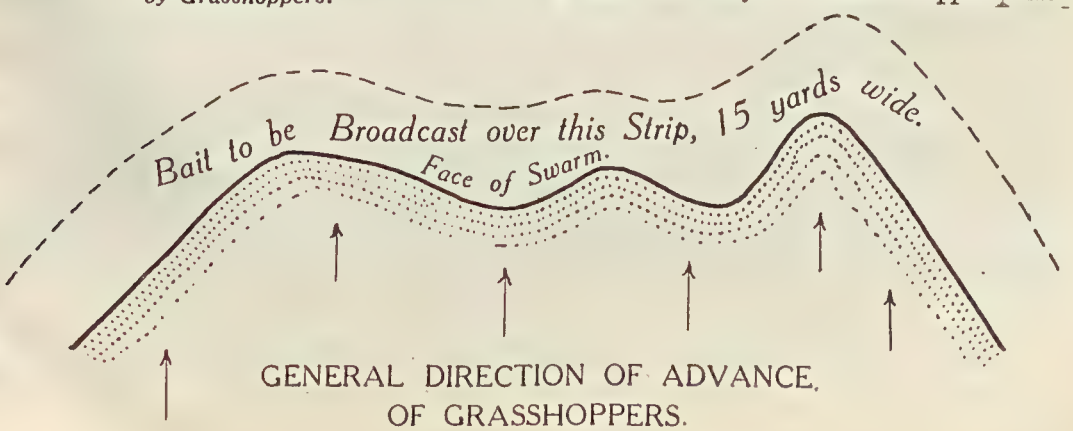
2. Put 3 gallons of water into each of three buckets, and while stirring add 3 lb. of arsenite of soda to each bucket. Keep stirring until the powder is dissolved.
3. Pour the dissolved poison in the three tins into the molasses and water mixture in the tub, stirring all the time to make the complete poison mixture.
4. Place one bag of bran (100-110 lb.) on the mixing floor, and slowly add 8 gals. of poison solution from the tub, continually turning the moistened heap of bran over with shovels or forks as the solution is added until the bran is wetted evenly.

Typical wheat ears showing damage caused by Grasshoppers.

The Minister of Agriculture, the Hon. J. Allan, M.L.A., inspecting an affected crop.

This prepared bait should be in the form of flakes, and *not as lumps or pellets.* One bag of bran will make two bags of bait, each weighing roughly 100 lb. If four mixing floors are used, 48 bags of bait may be prepared in one hour by this method.

This bait should be broadcast directly in front of the advancing swarm of "hoppers" at the rate of 60 lb. per acre, over a strip 15 yards wide, i.e., 60 lb. of bait is sufficient for a strip 15 chains long and 15 yards wide. This should be spread out evenly, preferably on the day of mixing, and certainly not later than 24 hours after mixing Broadcasting of this bait before 9 o'clock in the morning has given the most satisfactory results. If after two days it should happen that an



ppreciable number of " hoppers " pass beyond the strip treated it will be necessary to put a further strip in front of the survivors. In the great majority of cases one poisoning has been sufficient.

The plan on the previous page shows the general method of distribution.

To carry out this operation most efficiently it is recommended that it be done by three men walking abreast at a distance of six yards apart and broadcasting on either side. One man should walk on the face of the swarm, and it is essential that the others keep abreast of him, otherwise uniform distribution of the bait will not be obtained. The face of the swarm at the time of treatment should be pegged out definitely to facilitate later inspections.

Warning.

As this prepared bait is of a poisonous nature, it is recommended that all stock be kept away from the treated areas for a period of at least three days, after which the bait becomes dry and unattractive to animals.

Egg-laying Habits.

The first phase of the campaign to destroy grasshopper swarms in the Mallee has ended with the cessation of poisoning of first brood " hoppers." The second phase begins with the location and proper marking of the egg-beds produced by winged swarms which have escaped poisoning or have entered a district from unbaited areas.

The pest can be controlled very effectively provided the correct steps are taken with respect to egg-beds and young hoppers, since the latter can be destroyed before they cause damage to either pastures or crops. The following information and advice are supplied with the object of facilitating the location of egg-beds by farmers and others concerned. The possible damage which second-brood hoppers may cause to vines and fruit trees in irrigated areas, and to next season's cereal crops, and the necessity for the close co-operation of farmers and others with the Departments conducting the campaign, need hardly be stressed at the present juncture.

The information given herewith is based largely on observations made recently in the Mallee districts at present infested by grasshoppers.

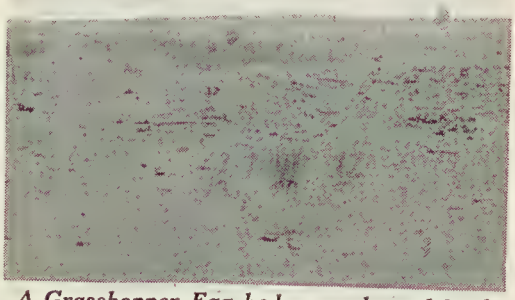
Flying Habits.

When individual grasshoppers in a swarm become winged they do not take to flight at once but remain with the " hoppers " for some time and move forward with them either on foot or by making short flights only. This fact has led to the destruction of great numbers of winged forms as well as " hoppers " by the poison baits.

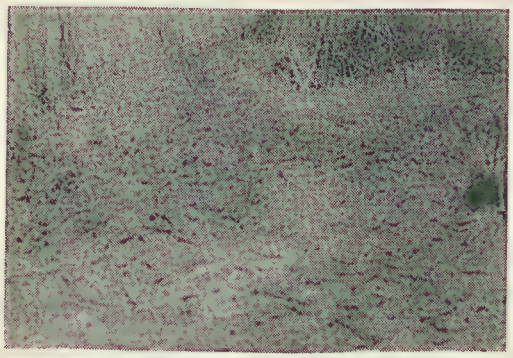
Once a whole swarm is winged, flight becomes general, but at first is irregular, without definite direction and only short distances are covered. Sometimes swarms fly in large circles over the breeding or feeding grounds. At this stage several swarms may meet and become mixed together, and thus a large swarm of fliers might develop. Apparently it is the larger swarms which make migratory flights of long distances and in a definite direction.

Egg-laying.

It is evident that winged swarms may commence egg-laying before they have flown any great distance. A swarm settles in dense masses on an egg-bed site with 100 or more females to the square foot. Each female stands on the surface of the soil and, with the abdomen arched, digs out a hole, using the special valves situated at the tip of the abdomen. As the hole is deepened the abdomen becomes much extended in length. The normal length is about $\frac{3}{4}$ inch, but the depth of the hole may be from 2 inches to $3\frac{1}{2}$ inches, and the abdomen is prolonged accordingly. When the hole is completed egg-laying begins, the female emits a white foamy secretion into the hole, and the eggs, which are slender and about $\frac{1}{4}$ inch in length, are embedded into this secretion. When all the eggs are laid in the hole more foamy material is secreted and this serves to close the egg-hole. The process occupies about an hour, and each female may deposit from 20 to 40 eggs in a hole. Furthermore, each insect may lay more than one group or cluster of eggs in its span of five or six weeks of adult life.



A Grasshopper Egg-bed on a channel bank.



A mass of Egg-laying Grasshoppers.

Egg-bed Sites.

Egg-bed sites are most likely to be found on hard bare patches of uncultivated soil such as occur on channel and dam banks, bare pasture land, at the sides of roads, &c. In New South Wales it has been observed that sometimes the eggs are laid also among the crops themselves. The egg-beds may vary from a fraction of an acre to many acres in extent.

Marking of Egg-Beds and Notification of their Presence.

Wherever winged swarms of grasshoppers are seen in a district it should be assumed that egg-beds are nearby and a careful search should be made for them. The most opportune time to locate the beds is while the flying insects are present. When an egg-laying swarm is discovered it should be watched until the insects have resumed their flight, in order that the full extent of the bed may be determined. The next step is to mark out with stakes the full length and breadth of the bed. It is *not* advisable to attempt to destroy the egg-laying females on the beds, nor to disturb them in any other way, as great numbers of them will escape and fly off to lay their eggs elsewhere, probably nearby.

Notification of the existence of egg-beds should then be forwarded to the nearest Closer Settlement Commission officer, or the Department of Agriculture, Melbourne, giving the name of the parish, the block number, and the name of the occupier. If beds occur on vacant blocks, Crown lands, roads, &c., this fact should be mentioned.

Before reporting egg-beds farmers and others should satisfy themselves *that egg-laying has actually taken place.* It has been noticed that when a swarm is in flight masses of the insects may congregate on the ground, presumably to rest, and although they appear, at a glance, to be massed for egg-laying, no eggs have been deposited before they resumed their flight. Also, the insects usually rest on the soil overnight. Egg-laying can be assumed to have taken place where the insects have been seen with their abdomen inserted in the ground, or where holes are seen when part of a swarm is disturbed.

A six-bag crop at Ouyen which was attacked by Grasshoppers but saved by the use of poison baits laid during the early stages of the outbreak. Baits were laid over a chain-wide strip in the crop seen, the portion on the right having been destroyed by the "hoppers".

(*Herald* photo.)

Treatment of Egg-beds.

The destruction of egg-beds by discing, ploughing, &c., is of doubtful value owing to the size of many egg-beds, their situation, the cost of the method, and to the fact that the chances of a high proportion of the eggs surviving the treatment are considerable. The most effective and proved method of controlling the pest is to watch the egg-beds until the young hoppers emerge and then treat them with poison bait before they have the opportunity to cause serious damage. The most satisfactory treatment then is the proper application of the poison bait described in the first section of this article.

Fruit Damaged in Transit

Another Successful Claim

THE Minister of Agriculture has received from the Agent-General for Victoria particulars of another successful claim for damages in respect of deterioration during shipment of a consignment of Australian fruit. It will be remembered that last year a London firm of wholesale fruit agents proceeded against the owners of the ss. *Hobson's Bay* for damages arising out of the carriage of apples shipped from Melbourne and which were found to be unsound on arrival at Hull. In finding for the claimants the courts reversed a previous decision and established that if it could be proved that fruit was placed on board in sound condition in Australia, it was then incumbent on the steamer to deliver the cargo in sound condition on arrival in England or, alternatively, prove that the fruit was suffering from inherent vice at the time of shipment. Particulars of the second successful claim are as follow :—

The steamer concerned sailed from Sydney early in the year with a consignment of pears and plums. On arrival at Melbourne temperatures had been reduced to 36° F. but, during the loading of other cargo, the hold temperatures rose to 67° F. with an air temperature of 100 to 101° F. The average voyage temperature of 33° F. was not reached until ten days later. The condition of the pears and plums at the time of shipment was agreed to be excellent but, on arrival in England, the fruit turned out to be in very wasty condition. The agents claimed that the damage was occasioned through the rise of hold temperatures at Melbourne, and failure to reduce them in sufficient time to restrict the excessive ripening of the fruit. Strengthened by the *Hobson's Bay* case the agents presented to the shipowners a claim for damages totalling £2,402 and this claim was subsequently settled out of court for £1,920. It is stated that other brokers who had damaged fruit from the same vessel are submitting their claims also.

Fumigation of Citrus Trees

By J. L. Provan, B.Agr.Sc., Horticultural Research Officer.

The fumigation of citrus trees for the control of Red Scale is becoming more popular in Victoria, and the object of this article is to discuss those factors which influence the success of this operation, and to consider the causes of tree injury, which sometimes accompany fumigation.

FUMIGATION of citrus trees for the control of red scale has been practised in Victoria for many years. Until 1924, the only method in use was the "pot" system, using the chemical reaction of sodium or potassium cyanide and dilute sulphuric acid for the generation of hydrocyanic acid gas, which is the toxic agent. This method was effective, but slow, and the damage to the fumigation tents or sheets, due to the corrosive action of the sulphuric acid, was a disadvantage. In addition, the weighing of the several substances, the disposal of the residue, and the slower generation of gas, caused this method to be superseded by others.

By 1924 red scale had become such a menace to citrus growing in Victoria that the growers requested that the Department of Agriculture should establish fumigation outfits in the principal citrus centres of the State, and fumigate growers' trees at cost price. This scheme was successfully put into operation by the former citriculturist (the late Mr. S. A. Cock).

Realizing the unsuitability of the "pot" method of fumigation for work of this kind, Mr. Cock made inquiries in all the citrus-growing countries in order to obtain the most up-to-date system. In 1924 the first successful tests with liquid hydrocyanic acid were made at Shepparton, and a large quantity of this material was imported from South Africa and employed in fumigation work. With further experience, however, this method was found to have several disadvantages. The high temperatures during the summer months, and lack of storage facilities, rendered the liquid explosive, its boiling point being only 78° F. There was also a danger from handling large bottles of such a deadly poison, and the cost of smaller bottles was too high.

Many other methods of fumigation, including Zyklon "B" and calcium cyanide dust in the form of Cyanogas "A" and "G" dusts, Citrofume and Citrus Cyca (now known as Calcid Briquettes), were tried, and finally Cyanogas and Calcid Briquettes were selected as being the most suitable, from all aspects, for fumigation under Victorian conditions.

During the period 1924–30, more than 200,000 trees were fumigated by the departmental outfits at an average cost of 2s. 3d. per tree. The equipment comprised 195 sheets, while nearly 30 tons of Cyanogas, 400 gallons of liquid hydrocyanic acid, and large quantities of other materials, were used. The total value of these fumigants was £7,600.

When deciding the measures to be adopted for the control of a red scale infestation, the two principal factors to be considered are the cost and the severity of the infestation. It is not a difficult matter to compute the comparative costs of spraying and fumigating; but the value of

Fig. 1.—Fumigating a Citrus Grove.

freedom from infestation from the pest in the future, and the effects of either of the treatments on the trees are not so easily ascertained.

Citrus trees which are heavily infested with red scale present a difficult problem even to the fumigator. The importance of this initial population will be discussed later; but growers who are faced with such a problem should consider either a double fumigation or a combination treatment of spraying followed by fumigation. Whether or not a double spraying would be effective depends on the size and density of the trees and the thoroughness of the spraying.

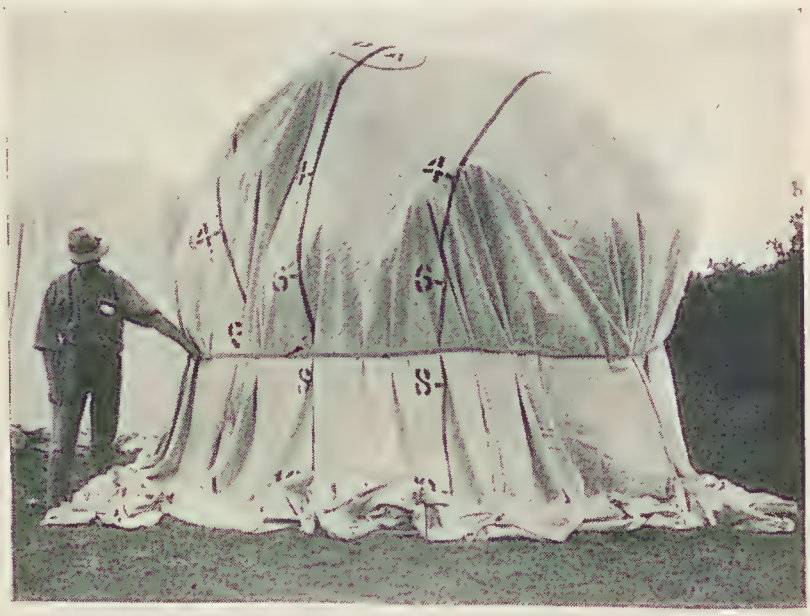


Fig. 2.—Measuring a tree by the "over and around" method.

The toxicity of the oil spray does not appear to be doubted, and it is generally accepted that, providing contact occurs between the oil film and the insect, it will be fatal. The small size of the insect, the dense foliage of the tree, and often its dimensions, as well as the efficiency of the spray outfit and the operator, are determining factors in this respect. The toxicity of cyanogen, the active principle in fumigation, and one of the most deadly poisons known, is unquestioned, providing that the conditions under which it is employed are favorable and allow the lethal concentration to be maintained for a sufficiently long period.

The importance of the "carrier" of the hydrocyanic acid gas will be dealt with later; but calcium cyanide, whether as a dust or as briquettes, is convenient and suitable, and is recommended when fumigation has been decided upon as the control measure.

Red Scale—Description and Life History.

Red scale (*Aonidiella aurantii* (Maskell) formerly known as *Chrysomphalus aurantii* (Mask.)) has been the major insect pest of citrus trees in Victoria for many years, and despite recent developments in control measures it remains a serious menace to the industry. The appearance of red scale is so well known that a description scarcely appears necessary; but there may be some who are not familiar with this pest.

The female insect when mature is circular and about one-tenth of an inch in diameter, and of a reddish-orange colour. It shelters beneath a transparent waxy covering formed by cementing the cast skins from frequent moults. The mature female is wingless and legless and becomes attached to the host plant by means of its long stylet or sucking apparatus, with which it pierces the plant tissues. Fruit, leaves, and twigs become infested and generally the insects on the fruit appear to be more robust and more difficult to kill than those on the leaves and twigs. When fully developed the female gives birth to living young, which have legs and can move away from the adult. Each female may produce from 100 to 150 living young.

In this young stage, which lasts from a few hours to three or four days, according to the weather conditions, the young scales are termed "crawlers." In Victoria "crawlers" begin to make their appearance during November and December, and continue appearing until April or May in favorable seasons. The long, dry, and hot autumns, which have been experienced recently, appear to be very favorable to late broods, and undoubtedly are responsible for the large increase in red scale infestation in spite of the control measures which, in normal seasons, have effectively combated the insect. This "crawler" stage is very easily dispersed by wind, or carried by birds, and so infestation spreads rapidly from tree to tree and from grove

to grove. It has been recorded that the young minute "crawlers" have been carried 400 feet by wind, and no doubt in windy localities may even be carried much longer distances. Unless sterilized, picking boxes and second-hand cases will also help to spread the pest from grove to grove.

During the summer months the "crawlers" develop rapidly, moulting several times, and the females may commence producing young in from 50 to 60 days. The "crawlers" are hardly visible to the naked eye; but as soon as they settle and undergo their first moult they can be easily distinguished on the fruit as small white dots.

The male insects, in the early stages, develop in much the same manner as the females; but after two moults the protecting scale becomes elongated and larger at one end. When mature they are only about half as large as the adult females and retain their legs and wings. When fully developed they emerge from the protective covering.

During the summer and early autumn growers are advised to maintain a regular inspection of their trees to detect the progress being made by the red scale. By recognizing early developments growers can make preparations to deal effectively with the infestation before picking.

It is a much better practice to forecast whether an infestation *may* be heavy by the end of the autumn rather than to observe that it *is* heavy when the fruit is being harvested. Such a forecast, based on the prevalence of young scales, has warned many growers to apply late control measures and so avoid a serious infestation of scale on fruit about to be picked.

The short, intense heat waves experienced in the northern parts of the State, when the thermometer registers 110° to 115° F., are valuable checks to the development of the immature red scale, especially on the leaves and twigs. Many immature scales are killed by these heat waves, but it has been noticed that scale on the fruit appears to be more resistant to heat.

Calcium Cyanide.

As its name implies, calcium cyanide is a chemical compound containing calcium and cyanide. Its toxic ingredient is cyanogen, which is released in the form of gaseous hydrocyanic acid. The scale insects breathe this poisonous gas and are destroyed.

Pure calcium cyanide ($Ca(CN)_2$) would contain 56·5 per cent. of cyanogen (CN), but the chemically purest commercial form of calcium cyanide is only 88·5 per cent. pure and therefore contains only 50 per cent. (CN). This pure form is known to Victorian citrus-growers as Calcid Briquettes, the calcium cyanide being compressed into small briquettes each weighing about 20 grams and therefore containing 10 grams of cyanogen. These briquettes facilitate the handling and measuring of the fumigant.

Cyanogas is the trade name of another calcium cyanide dust. Two forms of this product are known to Victorian citrus-growers, viz., "A" dust, a fine ash-like powder, and "G" fumigant, a more granular product, the grains resembling sea sand in size. Both these forms contain from 40 per cent. to 50 per cent. calcium cyanide

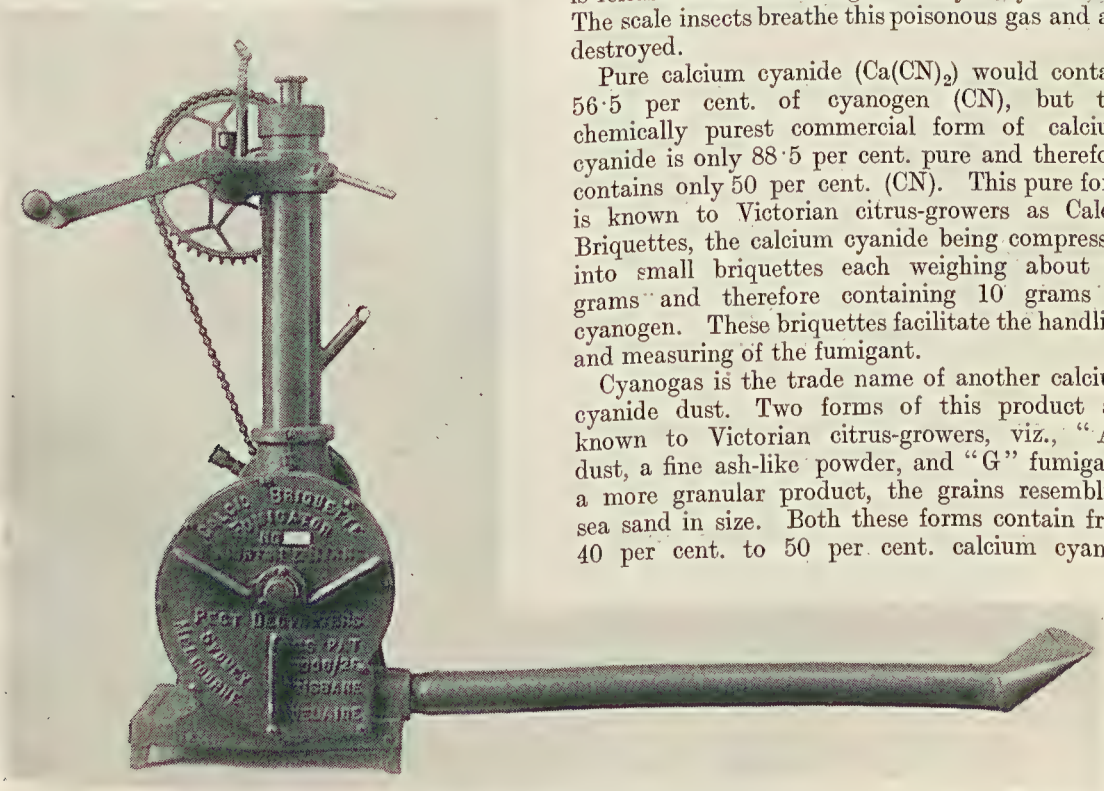


Fig. 3.—The Calcid Briquette Grinding and Blowing Machine for dosing Citrus Trees.

($Ca(CN)_2$), which means that the cyanogen content is between 22·6 per cent. and 28·3 per cent. Actual analysis of this product shows that it contains approximately 25 per cent. cyanogen. The importance of the cyanogen content of these compounds will be discussed later.

Where pure calcium cyanide is exposed to the atmosphere as a fine dust, the atmospheric moisture acts upon it, rapidly liberating its cyanogen content. This is shown by the chemical equation as follows:—

$$Ca(CN)_2 + 2H_2O = 2HCN + Ca(OH)_2.$$

Calcium cyanide + water from air = hydrocyanic acid + slaked lime

The hydrocyanic acid is given off as a gas, and the residue remaining is harmless slaked lime which soon combines with the carbon dioxide in the atmosphere to form calcium carbonate—the useful soil amendment.

This action is so rapid and complete in the presence of sufficient atmospheric moisture, which is usually termed relative humidity, that a few hours after treatment only very small traces of cyanide remain in the dust.

Typical analyses of the principal constituents of cyanogas "A" dust and Calcid Briquettes are as follow:—

—	Cyanogas "A" Dust.	Calcid Briquettes.
	%	%
Calcium cyanide ($Ca(CN)_2$) ..	45	88
Calcium chloride ($Ca(Cl)_2$) ..	4	..
Sodium chloride (NaCl) ..	32	..
Calcium oxide (CaO)	11	..
Calcium hydroxide ($Ca(OH)_2$) ..	..	9

The actual cyanogen (CN) content, as stated previously, is 25 per cent. for cyanogas "A" dust and 50 per cent. for Calcid Briquettes. In calculating the dosages for the various sized trees it is essential that the hydrocyanic acid gas concentration beneath the sheets should be sufficiently high to be toxic to the scale insects and low enough to have no detrimental effect on the foliage or fruit of the tree. In actual practice a certain amount of tip-burn and leaf drop is considered desirable. To obtain this lethal concentration a definite amount of calcium cyanide must be used, and this amount obviously will depend upon its composition as well as many other factors which will be considered later. For the present, the composition of the product will be discussed with reference to dosage and gas liberation, and also the cost of material.

Table I. shows the dosages of cyanogas "A" dust and Calcid Briquettes for eight different sized trees picked at random and fumigated under the same atmospheric conditions. For convenience, a temperature of more than 70° F. and a relative humidity of over 60 per cent., have been chosen, because no additional calculations need then be made to the dosage charts supplied by the distributors of these two products. The cyanogas dosage is based on 1 ounce to 100 cubic feet of space, and the Calcid Briquette dosage is known as Table E. The differences noted in the cyanogen content of the several dosages shown in Table I. may at first appear strange; but when considered in relationship to the recommendations of the distributors compensating factors largely adjust these differences. As it is proposed later to consider this aspect in more detail, further comment will not be made at this stage. The actual cost of cyanogen in cyanogas "A" dust is 4·64 pence per ounce, and in Calcid Briquettes 6·25 pence per ounce.

TABLE I.—COMPARISONS OF DOSAGES AND COSTS OF CYANOGAS "A" DUST AND CALCID BRIQUETTES.

Size of Tree.	Cyanogas "A" Dust.			Calcid Briquettes.		
Distance Over and Around in Feet.	Dosage—Ounces of Dust.	Actual CN Content of Dust.	Cost* of Dust—in Pence.	Dosage—Number of Briquettes.	Actual CN Content of Briquettes.	Cost* of Briquettes—in Pence.
		oz.			oz.	
14 x 22	4	1·00	4·64	2	0·70	4·40
20 x 24	5½	1·38	6·38	3	1·06	6·60
18 x 38	7½	1·88	8·70	4	1·41	8·80
26 x 34	9	2·25	10·44	4½	1·58	9·90
28 x 38	11	2·75	12·76	6	2·11	13·20
30 x 40	14	3·50	16·24	7	2·46	15·40
34 x 42	19	4·75	22·04	9	3·17	19·80
36 x 48	23	5·75	26·68	11	3·87	24·20

* These costs are based on the present prices:—Cyanogas 1·16d. per ounce, and Calcid Briquettes 2·2d. each.

A glance at the analyses of the two forms of calcium cyanide, shown above, reveals that impurities such as common salt (sodium chloride) and quicklime (calcium oxide) occur in cyanogas, and slaked lime (calcium hydroxide) in Calcid Briquettes. The impurities in the cyanogas probably influence the rate of evolution of cyanogen, and may also affect the total amount which is evolved in the 45 minutes during which the tree is covered. The manufacturers of cyanogas claim that slow generation and the maintenance of a uniform concentration under the tent are important, while the Calcid Briquette manufacturers claim better results with a rapid evolution and a maximum initial concentration which gradually decreases. Providing, however, that the lethal concentration is maintained for a sufficiently long period to destroy the insects it is of little consequence how it is maintained, and excellent results have been obtained in Victoria with both these forms of calcium cyanide.

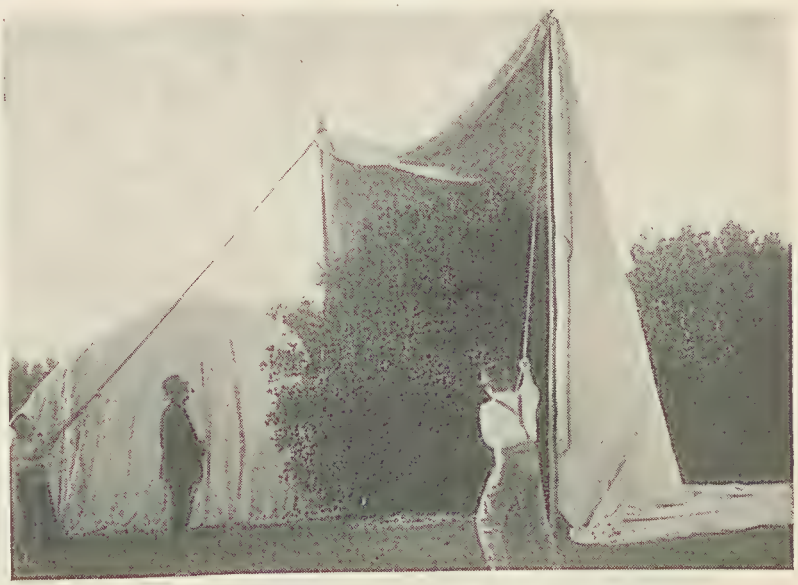


Fig. 4.—Covering a large tree with a fumigating tent.

It is probable that impurities, such as common salt and quicklime, which remain on fruit as residues after fumigation, may cause injury should moist conditions follow fumigation.

One other form of calcium cyanide—"G" fumigant—must now be considered. Experiments conducted by Mr. Rolfe, formerly orchard supervisor in the Shepparton district, showed that "A" dust cyanogas was perfectly safe for the fumigation of lemon trees during January and February when the humidities were below 45 per cent., but, as soon as the autumn rains fell or the humidities became higher, "G" fumigant should be employed. "G" fumigant is more granular and the evolution of the gas is not so rapid. In addition, less residue remains on the fruit and foliage.

How Trees are Fumigated.

For the information of those growers who are unfamiliar with the fumigation operation, a brief description, no doubt, will be appreciated. The fumigation is performed at night, because then the tree is less susceptible to hydrocyanic acid gas, and the atmospheric conditions are more suitable, chiefly on account of there being less wind. Fumigation in Victoria commences in January and may continue until April or May in favorable seasons, due precautions being taken.

The operation consists of completely enclosing the tree in a more or less gas-tight covering, called a sheet or tent, which is made of calico or duck. The volume of the tree is then measured by one of two methods—(1) height and diameter, or (2) distance over and around. Marks on the sheets, measuring sticks, or tapes are used to facilitate this operation.

The amount of calcium cyanide, which is the carrier for the poisonous gas to be used, is then obtained by reference to the dosage charts supplied by the distributor of the form of cyanide in use. This quantity of calcium cyanide is measured and then blown under the sheet enclosing the tree by means of a rotary fan blower. The very fine particles of dust filter through the foliage of the tree, and reacting with the moisture in the air liberate hydrocyanic gas. Each small particle of dust, therefore, becomes a focus for the liberation of the poisonous gas and ensures a fairly uniform distribution. The tree remains covered for a period of 45 minutes. The sheet is then floated by means of poles and ropes on to the next tree. At the end of the 45-minute period the small quantity of gas that remains is quickly dissipated in the atmosphere.

Fumigation Equipment.

(*a*) *Fumigation Sheets.* — Fumigation sheets should be made of either closely woven calico or duck, the former material being more suitable for

growers who intend to do their own fumigation, while the latter is suitable for contractors' outfits. The close weave is an essential feature, because the more gas-tight the sheet is, the longer the concentration of hydrocyanic acid gas will be maintained. If duck is used it also should be closely woven—10-oz. or 12-oz. Army duck is recommended. The experience gained by the Victorian Department of Agriculture, during its period of fumigation activities, amply supports the use of these heavier materials in preference to lighter ones. In pulling the fumigation sheets about the grove and in covering the trees severe strains are placed upon the material, and if light calico is used it soon deteriorates.

The sheets are usually made octagonal in shape and vary in size according to the size of the trees to be fumigated. When ordering sheets growers should measure their trees carefully, and make due allowance for growth during the next five or six years, as well as an adequate amount for folding on the ground. The fumigation sheets used by the Department were of three sizes—36 feet, 45 feet, and 56 feet across—and these were particularly suited to the many various sizes of trees fumigated. It is not a difficult problem to enlarge a sheet later, providing it is in good condition.

The number of sheets in each outfit will depend largely on the number of men employed and the size and location of the trees. Working in a uniform citrus grove of medium sized trees four men can handle an outfit of 25 to 30 tents; two men covering the trees, one measuring and the other dosing and recording. At odd times assistance may be necessary in covering the trees. In an outfit of this character one complete shift or "throw" is obtained every 45 to 60 minutes, which means that as soon as the last tree has been dosed the first tree will be finished, and the tent can be floated on to the first tree in the next row. When tents have to be dragged across vacant land in a grove, or where the block is irregular in shape, or trees are mixed with deciduous trees, the time taken for each "throw" will be longer.

Private fumigators will find that an outfit of ten or twelve sheets can be handled comfortably by two men, provided, that the trees are not exceedingly large. In handling fumigation sheets they should always be pulled or lifted in the direction of the seams to prevent undue strain in this region.

The usual practice in Victoria is to measure the trees, after covering, by the "over and around" method, and the sheets are marked in feet from the centre to the edge to facilitate this "over" measurement. These markings are made parallel to the seams, and usually two or three lines of figures are used in the event of the centre of the sheet not coinciding with the apex of the tree. Before marking, the tents should be shrunk by damping; in some cases sheets may shrink 1 foot to 2 feet.

Fig. 5.—Cyanogas Blower for applying Calcium cyanide dust to citrus trees.

After the fumigation season is over the sheets should be thoroughly dried, dusted with sulphur, rolled into compact bundles, and stored in a dry place. Careful attention in this respect will ensure a long life for the sheets.

(*b*) *The Dust Blower.*—The blower, by means of which the calcium cyanide dust is blown through a hose under the sheet, is a compact machine, weighing about 24 lb. The Calcid Briquette machine (Fig. 3) grinds the small briquettes into a fine powder and then blows this powder under the sheet. With the Cyanogas machine there is the blowing mechanism only, because the dust is already extremely fine (Fig. 5).

Much attention has been given to the nozzles of these machines in order that the dust may be as evenly distributed as possible. When fumigation is completed these machines should be carefully cleaned and oiled to prevent the corrosive actions of the lime or salt contained in the residues.

To assist growers who desire to perform their own fumigation, it is suggested that perhaps the distributing agents would be prepared to make such equipment available, at a nominal rental, to responsible bodies of growers or to growers' organizations. Such an arrangement would be welcomed in districts where contractors are not operating, and where growers could muster an outfit of fumigation sheets.

(*c*) *Measuring Tape, Thermometers, &c.*—Measuring tapes, which automatically calculate the dosage of calcium cyanide required for a given tree, are very useful to the fumigator. They are made of strong webbing and can be clipped to a fold in the tent, taken around the tent and the distance measured in feet. At this figure will also be shown the several distances over the top of the tent. The one that corresponds to this particular sized tree is noted, and the correct dosage for this tree can be read immediately. Fig. 2 illustrates how these measurements are obtained. If a dosage tape of this type is not available the distance over and around the tree is noted and the tables for dosage must be consulted.

Wet and dry bulb thermometers and a relative humidity table are essential in all fumigation work. These thermometers should be tested before use and at regular intervals subsequently. Serious damage to trees may occur if the wet and dry bulb thermometers are not functioning properly, because the humidity may rise above the danger level and the thermometers fail to record it. With practice, however, one soon learns to estimate the humidity, especially when it becomes excessively high; but it is wise not to rely on such guesswork.

If Calcid Briquettes are used as a source of hydrocyanic acid gas then no measuring device is necessary, because the dosage table is adapted to the use of so many briquettes per tree. When cyanogas is used a number of copper spoons, each of which holds from ½ oz. up to 8 oz. of dust, can be obtained for accurately measuring the dosage.

For tall trees two poles and two long thick ropes will be required to lift the sheets over the trees. The poles should be long enough to lift the edge of the sheet several feet above the tops of the trees and the ropes long enough to enable the poles to be pulled up from the ground. The method of covering a tree is shown in Fig. 4.

In addition to this equipment there are other smaller necessities, such as lanterns, &c., and a bottle of ammonia in case of accidents. An important feature of all fumigation work should be the keeping of careful records of the dosage of each tree, and the conditions of the tree, the grove, and the weather, when fumigation was performed.

Preparation of the Grove.

Unfortunately for contracting fumigators, few growers realize the value of a thorough preparation of their grove prior to fumigation. It is not an uncommon sight to see a fumigation gang of four men stop work, because of carelessly pruned trees; and removing objectionable limbs from citrus trees is not a pleasant or easy task at night, nor is it the work of the fumigation gang. Growers who intend to fumigate their groves in the approaching season should endeavour to have their groves in the best possible condition to facilitate the work, and to achieve the very best results.

(*a*) *Pruning.*—Pruning in preparation for the fumigation outfit should consist of "skirting" the trees, by removing the thick growth, which piles up on the soil, to a height of 1 foot to 1½ feet. It must be remembered that the poisonous gas used in fumigation is lighter than air and consequently these masses of foliage on the soil may not receive a sufficient concentration of gas to kill the scale. Jagged limbs, especially near the tops of the trees, should be removed in such a manner that the sheets will not be torn on the remaining wounds. Where trees are carrying very heavy dense foliage thinning can be practised with advantage.

[*Continued on page 633.*

The Common Barberry

A possible menace to wheat-growing

By A. Morgan, B.Agr.Sc., Weeds Research Officer

In view of the danger of the Common Barberry (Berberis vulgaris) *constituting a breeding ground for the development of new parasitical strains of the rust fungus, the Department of Agriculture desires to obtain information as to the presence of this shrub in Victoria. Readers, therefore, knowing of its existence are asked to advise the Director of Agriculture, Melbourne, C.2.*

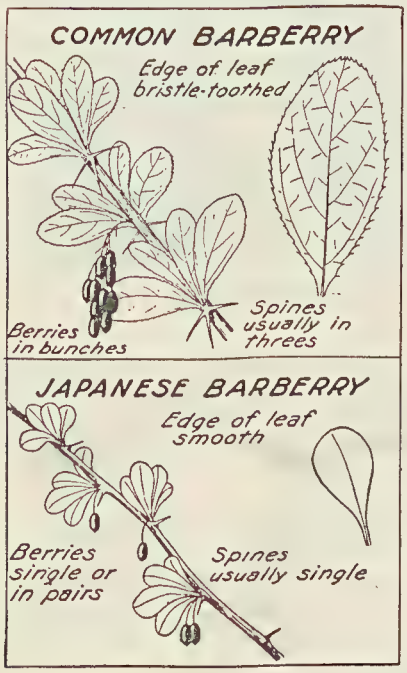
UNTIL the recording this year by Dr. W. L. Waterhouse (New South Wales), of the natural occurrence of black stem rust (*Puccinia graminis*) infection on barberries at Yetholme (New South Wales), Australian and New Zealand wheat growers had fancied their wheat crops secure from widespread epidemics of this disease, although in 1920 it was estimated by Mr. G. L. Sutton, Director of Agriculture in Western Australia, that, based on the then-ruling price of wheat, the disease was capable of causing a loss in Australia amounting to £5,000,000 in a single season.

The danger from the barberry arises from the possibility of the production of new biologic forms of the fungus, due to hybridization between, or mutations of, the few forms which we now find in Australia, with the resultant production of the more virulent forms which are typical of the wheat-growing areas of the Northern Hemisphere. Stakman and Levine, working in Minnesota, were the first to draw attention to these distinct forms of stem rust of wheat (*Puccinia graminis tritici*), and in 1922 these authors recognized 37 different biologic forms showing specialization in their capacity to attack certain varieties of wheat. The occurrence of so many forms renders the task of breeding resistant varieties particularly difficult, and also increases enormously the damage done to crops when conditions are favorable to an outbreak of the disease.

It has been generally admitted that the naturalization of the common barberry (*Berberis vulgaris*) in the United States, combined with its role of intermediate host for *Puccinia graminis*, has been the main cause of the production of so many forms of rust in that country, and since 1918, the Barberry Eradication Campaign has been in operation there in an endeavour to eradicate this undesirable shrub and its related species. After five years of that campaign over 5,000,000 bushes had been destroyed, and the work was not complete.

The berries of a Barberry bush.
[U.S.D.A. Bull., 1451].

The species of *Berberis* listed by Victorian nurserymen are as follows:—*vulgaris* (and varieties *purpurea* and *atropurpurea*), *aggregata*, *aquifolium*, *brachypoda*, *Darwinii*, *Delsiana*, *fortunei*, *Gilgiana*, *Sargentiana*, *stenophylla*, *subcaulialata*, *Thunbergii*, *vernae*, *Wilsonae*, and *rubrostilla*. It is probable that all these species are represented in some degree in gardens scattered throughout the State. Fortunately,



Distinguishing features of the Common Barberry (susceptible to stem rust); and the Japanese Barberry (immune from stem rust).

[U.S. Farmers' Bull., No. 1544.]

all of these are not susceptible to infection by stem rust of wheat, and in general it may be taken that those species which resemble the Japanese barberry (*B. Thunbergii*) are immune, with the notable exception of the tall Mahonia (*B. aquifolium*). According to Levine and Cotter (1932), it is possible that further study might prove some of the species which resemble the Japanese barberry to be susceptible, but there is very little doubt that the Japanese barberry itself is actually immune.

The accompanying sketch shows the important differences between the common and the Japanese barberry.

In the susceptible common barberry, the edge of the leaf is bristle-toothed, the spines are usually in threes, and the berries are in bunches. In the immune Japanese barberry, the edge of the leaf is smooth, the spines are usually single, and the berries are single or in pairs. Hybrid barberries having characteristics of both these species are susceptible, and are, therefore, as undesirable as the common barberry.

At present there is no record of any barberry species having escaped from cultivation in Victoria, or of any barberry having become rust-infected, but both of these undesirable features are recorded from New South Wales, and with the lamentable experiences of the United States wheat-growers fresh in mind it seems logical to make an early and concerted effort to eradicate plants which hold such grave potentialities of danger to our principal crop. This action will not automatically wipe out the disease, since uredospores produced by infected wheat plants are capable of infecting neighbouring plants, and of living over the summer to infect the next season's crop, while volunteer wheat is important as an agency for the spread of the disease. The black teleutospores which are produced as summer advances and the plants mature are incapable of infecting wheat directly, but they infect the barberry, on which aecidio-spores, capable of directly infecting wheat, are produced. The severity of the attack depends on many factors, such as the variety sown, the weather, and on the relative proximity to rust-infected barberries. Warm weather with frequent showers and heavy dews favours the development of rust, and certain varieties are particularly susceptible to the attack of certain of the biologic forms of the fungus. In an experiment in Wisconsin it was found that the degree of infection decreased rather uniformly with the distance from a barberry hedge, in the general direction of the prevailing wind at the time when conditions were favorable to attack, and ranged from 100 per cent. at 15 feet to 1 per cent. at 300 feet, and ½ per cent. at 400 feet. At greater distances the infection was negligible, but it is possible for the spores to be dispersed by wind for very long distances. In Rumania the infection by wind-borne spores from considerable distances south is considered to be a major cause of damage.

Without delving very deeply into the mechanics of the rust infection of wheat, or into the life history of the fungus, the facts presented cannot do other than emphasize the grave danger incurred by allowing to remain in cultivation in Victoria barberry species which are capable of acting as intermediate hosts for the fungus.

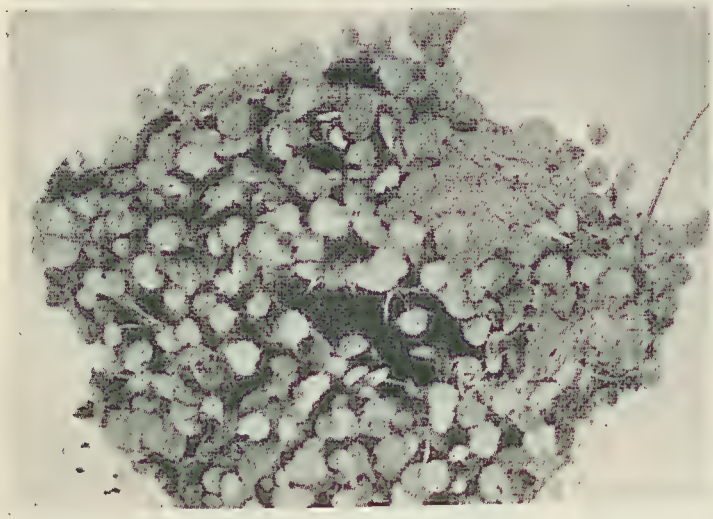
The problem resolves itself now into one of weed eradication, and should not be a serious one while we still have the plants under control

in Victoria. In the United States the barberry had escaped from cultivation and was growing in many situations where considerable difficulty was experienced in locating and eradicating it, but we have as yet no record of its naturalization here.

The common barberry (*B. vulgaris*) may be described as follows :— It is an ornamental shrub, composed of a number of stalks which grow to a height of 6 feet to 10 feet, and developing a thick mass of fine fibrous roots around the base of the crown. Large lateral roots, 1 inch to 2 inches in diameter near the crown, may spread from 10 feet to 15 feet from the crown, branching to some extent and producing numerous fibrous roots. Fortunately there is seldom a deep tap-root. As the bush grows, rhizomes are produced from the crown below the ground, grow laterally a short distance, then turn upward and produce aerial shoots and the entire clump by this method may become 5 or more yards in diameter.

Barberry shoots which have appeared as a result of inadequate grubbing.

The leaves have bristle-toothed edges, but are otherwise simple in outline, and usually grow in small groups or rosettes upon short spurs between stiff thorns and the branch. The thorns are usually in threes. The flowers are yellow, with ten to twenty in each inflorescence. The berries are bright-red when ripe, and contain two large seeds, from which the plant may be easily grown. The berries remain on the bush for a long period, and when food is scarce birds eat them; the seeds are not destroyed, and through this means the spread of the plant is greatly increased. In addition, birds carry the seeds to places which are difficult of access and the task of eradication is then correspondingly more difficult. Cattle may develop a liking for the berries and the seeds are deposited uninjured in the manure, in which they grow readily



Barberry seedlings growing in a dung pat. No mature plants were growing near this point.

[U.S.D.A. Bull., 1451.]

Methods of Eradication.

1. *Grubbing.*—The nature of the root-system, as previously described, is responsible for the difficulty experienced in eradicating the plant by grubbing it out. In sandy ground, after the lateral roots have been cut through, the clump can be pulled or grubbed out fairly easily, but unless the lateral roots are carefully traced along and removed they produce a larger number of new shoots than occurred on the original plant.

The bushes and roots should be piled and burned as soon as possible, or they may take root again, or new seedlings may develop from berries still attached to the stems.

2. *Salting.*— According to the American experience the most satisfactory chemical, taking

[Continued on page 635.

Farm Improvement

Phillip Island Competition

Report of the Judges—J. E. Harrison, B.Agr.Sc., Agrostological Research Officer; and W. J. Yuill, Senior Dairy Supervisor

THE Farm Improvement Competition was inaugurated in 1933 by the Phillip Island Better Farming League, the competition being for the best improvements to the farm during the period commencing 15th August, 1933, and ending 1st November, 1934. A first prize of £15, a second prize of £7 10s., and a third prize of £2 10s. were donated by Councillor A. K. T. Sambell for the encouragement of entries, and with the object of stimulating improvement of the Island farms.

There was an excellent response, and thirteen of the fourteen farms entered remained in the competition until the end, the one farm withdrawn having changed hands during the year.

The main objects in view were improvements in pastures and stock, and as reference to Table I. will show, points were allotted with a bias in these directions. Cognisance was taken of other phases such as clearing, shelter, fencing and subdivision, drainage, water supply, and buildings, but only few points were apportioned to these and emphasis was laid definitely on pastures and stock. Progress in these directions can be relatively rapid, and the returns from capital invested are considerable in proportion to those secured from other farm improvements.

The improvements brought about in each section, during 1934, are clearly set out in Table II.

Mr. W. A. Mallory secured first place with an aggregate of eighteen points for improvements effected during the year. The work done was distributed over six of the eight sections of the competition, and Mr. Mallory is to be congratulated not only on winning the competition, but also on securing an all round improvement of his property.

Messrs. Jeffery Bros., gained second place with fifteen and a half points. A general all round improvement was apparent here also, and much hard work had been done on this attractive farm.

Third place was awarded to Mr. L. R. Dixon with eleven and a half points. Excellent buildings had been erected, and much clearing and cultivation has been done by Mr. Dixon.

TABLE I.—DETAILS OF AWARDS.

Name.	Pastures.	Stock.	Clearing.	Shelter.	Fencing and Subdivision.	Drainage.	Water Supply.	Buildings.	Total 1934.	Total 1933.	Difference.
Maximum Points	**30**	**25**	**10**	**10**	**12**	**5**	**5**	**3**	**100**	**100**	—
E. D. Dixon	24	22	7	7	11	3½	2	2	78½	70	8½
Jeffery Bros.	21	22	9	9	11	5	5	2½	84½	69	15½
V. Justice	22	18	8	9	11	4½	1	2½	76	68	8
J. Roberts	23	17	9	8	11	3	2	1	74	67	7
A. E. West	19	17	10	8	9	3	1	2½	69½	66	3½
J. B. Graydon	18	18	9	7	11	4	3½	1	71½	65	6½
K. Sambell	16	17	8½	8	10	3½	3	2	68	58	10
R. G. Jeffrey	15	16	9	8	9	4	3	2	66	57	9
H. Justice	18	15	8	7	6	3	1½	1	59½	56	3½
A. C. Bruton	14	13	8	8	8	3½	1½	1½	57½	49	8½
Mrs. J. B. Dixon's Estate	16	12	7½	4	5½	3	3	1	52	45	7
W. A. Mallory	14	14½	8½	6	10	3	2	2	60	42	18
L. R. Dixon	10	8	7	4	6	3	1	2½	41½	30	11½

TABLE II.—INCREASES IN POINTS IN EACH SECTION.

Name.	Pastures.	Stock.	Clearing.	Shelter.	Fencing.	Drainage.	Water Supply.	Buildings.	Totals.
E. D. Dixon	4	2	..	..	1	½	1	..	8½
Jeffery Bros.	6	4	..	1	1	1	2	½	15½
V. Justice	3	3	..	..	..	½	..	1½	8
J. Roberts	3	2	1	..	1	..	..	..	7
A. E. West	1	1	1	..	..	..	..	½	3½
J. B. Graydon	2	1	..	1	1	..	1½	..	6½
K. Sambell	4	1	½	..	2	½	2	..	10
R. G. Jeffrey	3	1	..	1	2	1	1	..	9
H. Justice	2	..	1	..	..	..	½	..	3½
A. C. Bruton	2	3	..	..	2	½	½	½	8½
Mrs. J. B. Dixon's Estate ..	1	2	1½	..	½	..	2	..	7
L. R. Dixon	2	3	3	..	2	..	..	1½	11½
W. A. Mallory	4	4½	1½	3	4	..	1	..	18

Pastures.

Commendation may readily be given to the efforts made to improve the pastures on the competing farms. New pastures had been sown down, existing pastures had been maintained by topdressing, and native pastures had been topdressed for the first time. A favorable season had brought on the pastures well and at the time of inspection many excellent fields were to be seen. Satisfactory new pastures had been established by many and are the subject of comment in the special pasture report. Considerable importance was placed upon maintenance and it was pleasing to note that all were exercising care to preserve existing satisfactory pastures. The success of applying superphosphate to native or natural pastures was apparently dependent upon the presence of clovers. In some cases clovers were freely present and their response was very striking. An immediate increase in carrying capacity may be expected from these fields, and a steady improvement in soil fertility will result from the clover growth. Where clovers are scarce or not present at all their introduction should be considered in the future development of native pastures.

Stock

Generally, the cattle inspected were regarded as lacking in breed quality, and it is suggested that the selection of herd sires should receive immediate attention. Some of the pure bred bulls seen lacked size and constitution, as did also many of the cows.

High quality individual animals in some herds call for special comment, particularly in the case of Captain Dixon's pedigree bull and several cows, and also the herd sire of Messrs. Jeffery Bros. Two fine sows were seen on Mr. R. G. Jeffrey's farm, but generally this section was a weak one, as was also that of poultry. Mr. K. Sambell's extensive runs and stock were unusually good.

The class of horse on the Island was well demonstrated at the show, and it can be said that they compare very well with those of the average district on the mainland.

In the sheep section much better stock were seen, the average quality being distinctly good. Some splendid deep-bodied, large-framed cross-bred ewes were seen on the farms of Messrs. J. Roberts, L. R. Dixon, K. Sambell, R. G. Jeffrey, A. G. West, Justice Bros., and W. A. Mallory. There does not, however, appear to be any definite idea concerning the class of lamb to breed, and consequently a varied lot of rams was seen.

Farm Improvements.

Clearing of timber, tea-tree, and gorse have been undertaken in a more or less small way on many farms. The common appreciation of the value of shelter is commendable, and it was noticed that wherever clearing was being done suitable clumps of tea-tree were being left for the shelter of stock. Shelter belts of gums, cypresses, and pines were being planted on several properties, notably those of Messrs. Jeffery Bros., West, Roberts, Sambell, and Mallory. The cypress is held in high appreciation because its branches arise almost from the ground level and form an excellent breakwind. Pines branch out from 6 to 8 feet from the ground and consequently afford less protection. They also take up more room and deplete the soil to a greater width on both sides of the row. Attention is drawn to the excellent shelter provided by tea-

tree. It is native to the island, is easily grown, and its cultivation would be inexpensive compared with pines and cypresses.

More plantations are needed on the island, which is exposed to strong winds. Not only do plantations afford protection to stock—they protect pastures and crops also. They have a domestic value as well, and may be thinned out for firewood. Mr. V. Justice, whose farm has many shelter belts, is already using surplus growth for firewood. Fencing and subdivision also have received general attention during the past twelve months, resulting in considerable improvement in what was regarded last year as one of the weakest aspects of the farms in the competition.

On several farms the water supply systems have been improved. Messrs. Jeffery Bros. have built a 3,000-yard dam and installed a very fine water service to paddocks and sheds. Mr. K. Sambell has one new dam, and water has been laid on to four other paddocks from the windmill, while Mr. Graydon has two new dams. On other properties dams have been cleaned out and catchments improved. On the majority of farms inspected, however, the water supply system still requires attention. Considerable increases in stocking capacity are anticipated in all, but the already highly improved farms and water requirements will expand accordingly.

Drainage received relatively little attention, though it is apparent that some low-lying situations would be improved by putting down open drains to remove surface run-off quickly. It is advantageous to plough in the direction of fall rather than across it when preparing to sow down pasture on land inclined to be wet. The island soils appear to be fairly moist and retentive and carry several plants indicative of moist conditions, but probably careful cultivation to leave shallow ploughing finishes is all that is necessary for the most part. It is common observation in many districts that once a heavy sole of grass and clovers is established, the soils suffer less from wetness than under native pasture, and no doubt the same experience will occur on the island.

Of the buildings seen the fine concrete home and sheds of Mr. L. R. Dixon, erected on a previously barren block, are outstanding. This section, however, is a relatively weak one, and competitors are referred to the comments on "Buildings," contained in the report for 1933.

The work done on the majority of the farms is a record of fine achievement and a matter for congratulation for all concerned. The competition has been an undoubted success and one which should leave its mark not only on individual farms, but also on the farming development of the island as a whole.

New Pastures Competition

Report of the Judge, J. E. Harrison, B.Agr.Sc.

The "New" Pasture Competition, which promises to be a valuable one to Phillip Island farmers, affords an opportunity of observation and study of an important farm practice—the establishment of new pastures. This is a recent study, and one at present little understood on the island. It may confidently be anticipated, however, that a continuance of the competition will gradually define standards for all to follow. From it will arise regular practices which will guide the sound and experienced farmer when he decides to lay down new pasture. Entries were judged at the same time as the farms in the Farm Improvements Competition.

Other competitors were Messrs. Jeffery Bros., V. Justice, K. Sambell, R. G. Jeffrey, A. C. Bruton. Owing to several exhibits being entered late, full particulars in respect of them were not obtained.

Captain E. D. Dixon's new pasture of perennial rye grass and white clover was awarded 89 points

DETAILS OF AWARDS.

Name.	Workmanship.	Composition.	Uniformity and General Appearance.	Freedom from Weeds.	Total.
Maximum Points ..	25	25	25	25	100
Dixon, E. D. ..	23	19	23	24	89
Mallory, W. A. ..	21	18	21	23	83
Roberts, J. ..	21	16	18	20	75

and secured first prize. The care and attention which had been bestowed upon the field were reflected in its excellence. No detail had been overlooked, the same high quality obtained from fence to fence, and the general appearance of the field was one of health and vigour.

A sound pasture was exhibited by Mr. W. A. Mallory, who gained second place with 83 points. It consisted mainly of perennial rye grass with a little cocksfoot and subterranean clover, sown with a cover crop of oats. Its establishment had been carefully undertaken, and a clean and uniform pasture had resulted.

Mr. J. Roberts also exhibited a good pasture. The soil had been well prepared and the seed evenly distributed. Perennial rye grass was well established and a little subterranean clover was making headway, but the presence of some sorrel spoilt the general appearance of the field. Both Mr. Mallory and Mr. Roberts had been successful in establishing sound fields, which with ordinary care should develop into first class permanent pastures.

Interesting features of other exhibits came under notice. Mr. V. Justice had established a satisfactory stand of perennial rye grass with seed harvested from old pasture on his own property. By contrast may be mentioned the experience of Mr. Bruton, who had unwittingly sown down Wimmera rye grass on portion of his field. It had afforded excellent grazing during the year, but at the time of inspection was already showing signs of dying out. Relatively extensive areas of new pasture had been sown down by Messrs. Sambell, R. G. Jeffrey, and Jeffery Bros., and in all cases it may be anticipated that sound, permanent pastures will become established.

Establishing Pastures.

Perennial rye grass may be sown over a long period on the island—from March to October according to the season, and with the exception of June and July. Cocksfoot is slow to grow and its seeds need relatively high soil temperatures for germination, so that it is best sown in early autumn. Subterranean, white, and alsike clovers also are best sown in early autumn if they are to make reasonable growth in the first year. New Zealand Cowgrass (New Zealand red clover) may be spring sown—in fact, is sometimes best sown in early spring. Occasionally white clover may be sown to advantage in early spring, but autumn sowings usually are more successful.

When mixtures are sown, the time of sowing should be made to suit, as far as possible, the more sensitive and limited of the constituents. Thus, though perennial rye grass may be sown over a fairly long period, subterranean clover is definitely best sown in early autumn, and therefore it is best to sow a mixture of these two species early in the season. Spring sowings of suitable species may be undertaken with more confidence than is usually assumed, and seed of paspalum, for example, is definitely sown to better advantage in the spring.

Captain Dixon had sown two bushels of Western District perennial rye grass (certified) and $1\frac{3}{4}$ lb. of New Zealand white clover (certified) per acre. If it was desired to secure the establishment of white clover in good proportion with perennial rye grass, then the heavy seeding of perennial rye grass will defeat this object, temporarily at least. Perennial rye grass is a highly competitive and exclusive species, and when a heavy seeding is made, it is usually not until the third year that clovers increase sufficiently to form a high proportion of the herbage.

Mr. Mallory's exhibit had been sown with 20 lb. Western District rye grass, 10 lb. New Zealand perennial rye grass, 10 lb. cocksfoot, and 2 lb. subterranean clover. The rye grass was having a severe effect upon both the cocksfoot and subterranean clover and holding them in check considerably. Another field had been autumn sown to white clovers and paspalum under a cover crop of oats. There was no papsalum showing, though it may still appear. For germination, this seed requires high soil temperatures such as prevail in middle and late spring, and sowing at this period is more likely to be successful.

These instances of doubtful seeds mixtures could be extended, but it is desired only to raise the question of what is suitable and necessary. It is perhaps not without advantage to make a heavy sowing of perennial rye grass, as it suppresses many weeds as well as desirable companions. If the soil has been well prepared, however, 15 lb. to 20 lb. of seed per acre, or even less, will be found sufficient to give a satisfactory stand. In mixtures as little as 5 lb. may be used. If a mixture is economical in this respect, seeds of other grasses and the clovers may be increased to advantage.

At present little accurate knowledge of suitable mixtures and rates of seeding for permanent pastures is available on the island. This suggests a useful field for trial and observation and one within the capacity of most farmers to explore to a useful extent under expert guidance.

Artificial Fertilizer Inspections

Report for 1934

By W. C. Robertson, Chemist.

ALTHOUGH an Act regulating the sale of artificial fertilizers has been in operation in Victoria for more than 30 years, the Department of Agriculture, in its administration of this Act, still discovers an occasional attempt to foist artificial fertilizer of poor quality and indifferent value on to the farmer. During the 1934 season, however, the samples of artificial fertilizers collected from stocks at factory and store on analysis have disclosed that, generally speaking, the man on the land is receiving fair value for his money from the artificial fertilizer industry.

The single prosecution case which took place during the year, and which was lost subsequently on review because of technicalities, was regarded very seriously by the Department. It serves to show the necessity for extending the present system of inspection so that no appreciable tonnage of any artificial fertilizer, simple or compound, escapes the sampling rod of the inspecting officer.

The Act provides for the sampling of parcels of artificial fertilizers by the Deputy Chemist in various localities *but not on the farm.* The present system accordingly is to inspect and sample parcels of fertilizers in the factory or at the store. Once delivery of the fertilizer is taken the jurisdiction of the departmental officer ceases and the responsibility of sampling any suspected parcel so delivered, together with any subsequent action rests with the farmer.

The procedure in cases of this description is clearly laid down in the Act. The purchaser must give, within fourteen days of delivery, written notice to the vendor of his intention to have the parcel of fertilizer sampled for analysis and also offer to divide the sample, as required by the Act, in the presence of the vendor at any time within the fourteen days. The sample is then forwarded by registered post to an official analyst for analysis, together with the prescribed fee of £1 1s. Subsequent events will depend upon the result of the analysis. From the foregoing facts it will be seen that the Act provides, irrespective of any departmental inspection, adequate protection for the farmer in so far as his purchases of artificial fertilizer are concerned.

Taking Samples of Artificial Fertilizers.

The sampling and analyses of artificial fertilizers have been part of the routine work of the laboratory of the Department of Agriculture ever since the Act was placed on the Statute. During the past season, 23 samples of artificial fertilizers were taken from parcels at the works or on agents' premises in town and country. The fertilizers inspected included superphosphate, blood and bone, dried blood, blood manure, bone and superphosphate, superphosphate and bone, bonedust, superphosphate and ammonia, blood, bone, and superphosphate, market garden manure, and mixed fertilizers. Details of the samples collected together with the results of analyses are given in Table I. If these figures are compared with the guaranteed analyses it will be seen that the qualities of the parcels inspected were within the limits allowed by the Act.

TABLE I.—RESULTS OF ANALYSIS OF SAMPLES OF ARTIFICIAL FERTILIZERS COLLECTED IN VICTORIA DURING THE 1934 SEASON UNDER THE PROVISIONS OF THE FERTILIZERS ACT 1928 No. 3680.

Bottle Label No.	District in which Sample was Obtained.	Brand and Description of Fertilizer.	Analysis as Guaranteed by Manufacturer or Found by Chemist.	Nitrogen.				Phosphoric Acid.				Potash as Sulphate.	Mechanical Condition of Bonedusts.		Manufacturer or Importer.
				As Ammonia.	As Blood.	As Blood and Bone.	Total.	As Water Soluble.	As Citrate Soluble.	As Citrate Insoluble.	Total.		Fine Material.	Coarse Material.	
				%	%	%	%	%	%	%	%	%	%	%	
1708	Metropolitan	W.A. and Co., Imperial in diamond Blood and bone	Guaranteed	..	..	5·00	5·00	..	5·00	10·00	15·00	..	..	..	W. Angliss and Co. (Aust.) Pty. Ltd., 42 Bourke-street, Melbourne
			Found ..	..	..	5·77	5·77	..	6·44	7·70	14·14	..	..	..	
1710	,, ..	M.C.C. in diamond Blood manure	Guaranteed	..	8·00	..	8·00	..	..	..	..	..	..	..	Melbourne City Abattoirs, Smithfield-road, Flemington
			Found ..	..	8·56	..	8·56	..	..	..	..	..	..	..	
1711	,, ..	Sickle in diamond Bone and Super. No. 1	Guaranteed	..	..	2·00	2·00	11·38	3·08	5·32	19·78	..	..	..	Commonwealth Fertilizers and Chemicals Ltd., 65 William-street, Melbourne
			Found ..	..	..	2·00	2·00	11·26	2·40	7·05	20·71	..	..	..	
1712	,, ..	T.B. and S. in diamond Brooklyn dried blood	Guaranteed	..	11·60	..	11·60	..	..	..	..	..	..	..	Thos. Borthwick and Sons (Australasia) Ltd., 84 William-street, Melbourne
			Found ..	..	11·67	..	11·67	..	..	..	..	..	..	..	
1713	,, ..	T.B. and S. in diamond Brooklyn blood and bone	Guaranteed	..	..	6·00	6·00	..	9·00	4·00	13·00	..	..	..	,, ,, ,,
			Found ..	..	..	6·40	6·40	..	6·18	6·71	12·89	..	..	..	
1714	,, ..	Dundas' .. Blood and bone	Guaranteed	..	..	4·50	4·50	..	7·14	13·61	20·75	..	..	..	J. A. Dundas, Dynon-road, Footscray
			Found ..	..	..	5·15	5·15	..	6·60	13·22	19·82	..	..	..	
1715	Geelong ..	Cresco .. Mixed manure, No. 2	Guaranteed	1·00	..	1·40	2·40	11·25	2·00	4·50	17·75	5·00	..	..	Cresco Fertilizers Ltd., Geelong
			Found ..	1·15	..	1·30	2·45	11·58	1·41	5·43	18·42	5·55	..	..	
1716	,, ..	Cresco .. Mixed manure, No. 3	Guaranteed	9·15	..	..	9·15	9·11	·22	·44	9·77	5·39	..	..	,, ,, ,,
			Found ..	8·68	..	..	8·68	10·27	·10	·30	10·67	5·28	..	..	
1717	,, ..	Corio .. Blood and bone	Guaranteed	..	..	4·00	4·00	..	6·00	8·00	14·00	..	..	..	The Corio Trading Co-Pty. Ltd., 164 Moorabool - street, Geelong
			Found ..	..	..	4·47	4·47	..	5·37	13·04	18·41	..	..	..	
1718	,, ..	Cresco .. Super. and ammonia (6 and 1)	Guaranteed	2·85	..	..	2·85	17·48	·42	·85	18·75	..	..	..	Cresco Fertilizers Ltd., Geelong
			Found ..	2·80	..	..	2·80	17·59	·26	·96	18·81	..	..	..	
1719	Camperdown	Cockatoo.. Blood and bone	Guaranteed	..	..	4·50	4·50	..	5·90	5·88	11·78	..	..	..	R. Fordham, Camperdown
			Found ..	..	..	5·89	5·89	..	5·77	9·93	15·70	..	..	..	
1720	Warrnambool	B .. Bonedust	Guaranteed	..	..	..	3·35 (as bone)	..	..	..	23·20	..	60·00	40·00	T. Benson, Woodford
			Found ..	..	..	..	3·25 (as bone)	..	..	..	24·35	..	51·10	48·90	
1721	,, ..	Pioneer Bonedust	Guaranteed	..	..	..	3·82 (as bone)	..	..	..	21·96	..	50·00	50·00	W. A. Rainey, Mepunga East, via Allansford
			Found ..	..	..	..	3·54 (as bone)	..	..	..	24·84	..	27·30	72·70	
1722	, ..	Sickle in diamond Super. and ammonia (3 and 1)	Guaranteed	5·15	..	..	5·15	15·37	·37	·76	16·50	..	..	..	Commonwealth Fertilizers and Chemicals Ltd., 65 William-street, Melbourne
			Found ..	4·92	..	..	4·92	16·03	·29	·64	16·96	..	..	..	
1724	Casterton ..	Cresco Superphosphate, 22 per cent.	Guaranteed	..	..	..	..	20·50	·50	1·00	22·00	..	..	..	Cresco Fertilizers Ltd., Geelong
			Found ..	..	..	..	..	20·78	·44	·73	21·95	..	..	..	
1801	Metropolitan	Sickle in diamond 22 per cent. super.	Guaranteed	..	..	..	..	20·50	·50	1·00	22·00	..	..	..	Commonwealth Fertilizers and Chemicals Ltd., 65 William street, Melbourne
			Found ..	..	..	..	..	20·63	·74	·95	22·32	..	..	..	

TABLE I.—RESULTS OF ANALYSIS OF SAMPLES OF ARTIFICIAL FERTILIZERS COLLECTED IN VICTORIA DURING THE 1934 SEASON UNDER THE PROVISIONS OF THE FERTILIZERS ACT 1928, No. 3680—*continued.*

Bottle Label No.	District in which Sample was Obtained.	Brand and Description of Fertilizer.	Analysis as Guaranteed by Manufacturer or Found by Chemist.	Nitrogen.				Phosphoric Acid.				Potash as Sulphate.	Mechanical Condition of Bonedusts.		Manufacturer or Importer.
				As Ammonia.	As Blood.	As Blood and Bone.	Total.	As Water Soluble.	As Citrate Soluble.	As Citrate Insoluble.	Total.		Fine Material.	Coarse Material.	
				%	%	%	%	%	%	%	%	%	%	%	
1802	Metropolitan	Sickle in diamond Market garden manure	Guaranteed	1·72	..	1·56	3·28	10·26	2·43	4·23	16·92	2·42	..	..	Commonwealth Fertilizers and Chemicals Ltd., 65 William street, Melbourne
			Found ..	1·84	..	1·41	3·25	10·46	2·30	3·76	16·52	2·77	..	..	
1805	„ ..	Arch No. 1 Blood and bone	Guaranteed	..	..	7·00	7·00	..	7·00	3·00	10·00	..	..	..	Amalgamated Freezing Co. (Vic., Pty. Ltd. 54 Market-street, Melbourne
			Found ..	..	..	6·72	6·72	..	5·69	6·12	11·81	..	..	..	
1806	Dandenong..	Sickle in diamond Sulphate of ammonia	Guaranteed	20·60	..	..	20·60	..	..	..	..	..	..	..	Commonwealth Fertilizers and Chemicals Ltd., 65 William, street, Melbourne
			Found ..	20·20	..	..	20·20	..	..	..	..	..	..	..	
1807	Metropolitan	Sickle in diamond 22 per cent. Super.	Guaranteed	..	..	..	..	20·50	·50	1·00	22·00	..	..	..	„ „ „
			Found ..	..	..	..	..	20·46	·46	1·08	22·00	..	..	..	
1808	Dandenong..	Sickle in diamond, Super. and Bone, No. 2	Guaranteed	..	..	1·00	1·00	15·95	1·79	3·16	20·90	..	..	..	„ „ „
			Found ..	..	..	1·18	1·18	15·45	1·81	3·55	20·81	..	..	..	
1809	„ ..	Sickle in diamond Blood, Bone and Super.	Guaranteed	..	..	2·50	2·50	12·51	1·43	2·96	16·90	..	..	..	„ „ „
			Found ..	..	..	2·70	2·70	12·70	2·33	3·55	18·58	..	..	..	
1810	„ ..	Apollo Blood and Bone	Guaranteed	..	..	5·00	5·00	..	4·00	12·00	16·00	..	..	..	J. Kitchen and Sons Pty. Ltd., Inglesstreet, Port Melbourne
			Found ..	..	..	5·28	5·28	..	5·75	11·15	16·90	..	..	..	

Sample No. 1721 was found on analysis to be superior in quality, but inferior in mechanical condition to the guarantee owing to the use of faulty screens. As the manufacturer undertook to remedy the fault, it was considered that a warning would suffice, especially as the fertilizer when analysed was found to have a value of £8 15s. 9d. per ton, against the guaranteed value of £8 13s. The registered price was £8 10s. per ton, so that although the bonedust was very coarse the value when computed by the unit value system proved that there had been no attempt to defraud.

When organic fertilizers, such as bonedust and tankage, show a deficiency in the guarantee of one fertilizing constituent with an excess of the guaranteed percentage of another fertilizing constituent, it is the rule, within limits, to permit one to offset the other, always providing the total value is equivalent to or greater than the guaranteed value and that the fertilizer is not in any way adulterated, mixed or filled. Whenever discrepancies of this nature are discovered, however, the manufacturer is warned to attend immediately to the matter. More than one of these cases occurred during the year. Where the deficiencies and excesses are so great or are such that it is deemed that they might interfere with the farmers' requirements, the above rule regarding offsetting does not apply.

The figures in Table II. show the value per ton of the various fertilizers inspected, computed on the guarantee and compared with the value calculated from the analyses. Where more than one sample of the same kind of fertilizer was taken, the figures have been averaged.

TABLE II.—VALUES PER TON OF FERTILIZERS INSPECTED.

Fertilizer.	Guaranteed Value per Ton.	Calculated Value per Ton.	Registered Price per Ton.
	£ s. d.	£ s. d.	£ s. d.
Superphosphate	4 8 3	4 8 8	4 7 6
Blood and bone	7 10 11	8 1 4	7 8 3
Blood manure	7 8 0	7 10 6	6 15 0
Dried blood	10 4 0	10 5 2	9 10 0
Bone and superphosphate	6 1 5	6 5 1	6 17 6
Superphosphate and bone ..	5 7 1	5 9 10	6 0 0
Blood, bone, and superphosphate	5 14 9	6 6 6	7 2 6
Bonedust	8 14 7	8 15 4	7 0 0
Superphosphate and ammonia, 6 : 1	5 10 4	5 9 10	5 17 6
Superphosphate and ammonia, 3 : 1	6 8 6	6 8 2	6 15 0
Sulphate of ammonia ..	12 7 2	12 2 5	12 7 6
Market garden manure ..	6 17 2	6 17 1	8 2 6
Mixed manures	9 2 7	9 3 9	9 8 9

The figures for superphosphate bear a close relation, showing that the farmer who used the fertilizer received slightly more than 20s. worth of phosphoric acid for every £1 expended. The blood and bone values are very satisfactory in that the average guaranteed value has been exceeded by more than 10s., and the average registered price per ton is 13s. less than the average value, calculated from the analyses of parcels of blood and bone which were inspected. Computing in this way, the farmer would benefit to the extent of approximately 15s. per ton in his purchases of dried blood and blood manure.

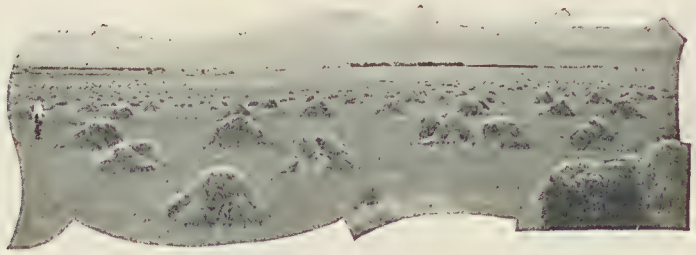
Analysing Fertilizers in the Departmental Laboratory.

Bonedust, another tankage fertilizer, seems to be a better bargain. Two bonedust samples were withdrawn from parcels at the works during the year, but as one was of faulty manufacturit was not taken into consideration when calculating. The remaining sample showed equality in value between guarantee and analysis, but it has a very low registered price, and in fact, was available at a still lower figure during the year to any one prepared to pay cash. As shown by the figures, the farmer received 35s. excess value per ton, *which represents a discount of* 25 *per cent.*

Sulphate of ammonia usually returns an analysis close to the guarantee, but the sample obtained this season, although complying with the Act, was not of the usual high standard.

Bone and superphosphate and superphosphate and bone, two very popular fertilizers, supply interesting figures, from which it would appear that the latter is the better buying.

Mixed fertilizers generally show even values, but market garden manure has a guaranteed value and calculated value of approximately £6 17s. 2d., while the registered price is £8 2s. 6d. Although extra expenses, including cost of mixing, must be considered, figures for this fertilizer do not compare well with others in Table II.



Fruit Growers' Relief Payments

Apple and Pear Growers

THE Fruit Growers Relief, 1934, Committee has been appointed in accordance with Section 2 of the *Fruit Growers Relief (Commonwealth Payment) Act* 1934, and special claim forms for the use of fruit growers who desire to participate in the amount of £22,083 provided by the Commonwealth Government for distribution to fruit growers in Victoria are now available at post offices in the apple and pear growing districts. These may be obtained on application to postmasters.

Payments under the Act are to be restricted to fruit growers in Victoria who satisfy the committee that they have :—

(*a*) Exported from Australia, or
(*b*) Sold for export from Australia—

apples or pears grown by such fruit growers during the 1933-34 season. Claimants must produce evidence to the satisfaction of the committee that all fruit in respect of which a claim is made was actually exported from Australia.

Claimants are urged to comply strictly with the following conditions :—

1. Supply in detail all information required on the special application form. All writing must be in ink and unless forms are completed they will not be accepted.
2. Have declarations on the form attested by a Justice of the Peace or a Commissioner for taking Declarations and Affidavits.
3. Forward their completed claim forms supported by account sales in respect of all c.i.f. and consignment sales, and by statements of accounts from the purchaser or exporter in respect of all f.o.b., f.o.r., or other sales to the orchard supervisor for the district as early as practicable, and not later than the 9th January, 1935. A list of orchard supervisors appears on the claim form.
4. Each party to a share-farming agreement must submit a separate claim respecting the apples and pears on which he is entitled to claim for payment.

Strict attention to these requirements will obviate delay and unnecessary correspondence and expense.

In the event of forms not being available at post offices they may be obtained on application by letter to the Fruit Growers Relief, 1934, Committee, 605 Flinders-street, Melbourne, from whom any further information necessary to claimants may be obtained.

MANDARIN GROWERS' RELIEF.

A committee has been appointed to distribute the amount of £216 provided under the *Mandarin Growers Relief Act* 1934 by the Commonwealth Government for growers of mandarins in Victoria. Special claim forms have been printed and these may be obtained on application to the following :—

1. Fruit Growers Relief, 1934, Committee, 605 Flinders-street, Melbourne, C.3, or any of the undermentioned orchard supervisors :—
2. Mr. R. Roberts Mildura.
3. Mr. D. D. Brown, Box 202, Swan Hill.
4. Mr. V. L. Lawrey, Shepparton.
5. Mr. W. Nunn, Kyabram.
6. Mr. C. Wills, Horsham.
7. Mr. J. K. Muir, Rochester.

Payments under the Act are restricted to growers who claim in respect of mandarin trees grown in Victoria and in bearing at 30th June, 1934.

To facilitate handling of the claims, it is urged that claimants should comply strictly with the following conditions :—

1. Supply all information required on the special claim form—this must be written in ink ; incomplete forms will not be accepted.
2. Have the declaration on the form attested by a Justice of the Peace or a Commissioner for taking Declarations and Affidavits.
3. Forward the completed form to the orchard supervisor for the district before 15th December, 1934. Late claims will not be accepted.

The Apple Root Borer

By C. French

THE Apple Root Borer (*Leptops Squalidus Bon*), which has been for some years a serious pest in the Goulburn Valley and other districts, was originally a native insect attacking particularly wattle trees. The removal of this type of food has caused the insect to find other means of living, and apples, pears, and vines have been the main plants attacked.

The eggs of this insect (about 40 in number) are laid always on the leaves, on one side of the leaf. The insect then draws the edges of the leaf together, gumming them down over the eggs, thus protecting them. The young larvae hatch from these eggs, and immediately drop down to the ground, which they enter, attacking the roots of the tree. They gnaw out furrows in the roots, in some cases completely ringing and killing them. The larvae are legless in all stages. These larvae may live in the soil for several years, finally pupating in one of the furrows in a loose earthen cocoon formed of earth and gnawed root. The adult insects emerge from the cocoons usually in the first week in September, and leave the soil, crawling up the trunk of the tree to the leaves where egg-laying

The Apple Root Borer.

1.—Branch of apple tree with perfect insects, showing female drawing edges of leaves together and depositing eggs. 2.—Larva (slightly enlarged). 3.—Pupa (natural size). 4.—Eggs on leaf. 5.—Section of apple-tree root showing damage by tunnelling.

is immediately commenced. The adult insects are found on the trees from September until late December.

Control Measures.

While the adult insect is on the leaves, a certain amount of damage is done by the insects eating the foliage. This fact is made use of by spraying the foliage early in September with arsenate of lead, 1 lb. to 16 or 20 gallons. The insects eating this poison are killed while in the adult stage. It is generally not necessary to apply a special spray for this purpose where the usual spraying programme for Codling Moth control is carried out.

Probably the most effective method of controlling these insects is the use of zinc bands placed around the main stem of the tree a few feet from the ground. These consist of plain, smooth zinc strips about 3 inches in width, which are placed around the tree, overlapping about 6 inches, and firmly nailed on to the tree. These are to prevent the borers ascending, as they are unable to crawl over the zinc because of the smooth surface preventing their obtaining a foothold. It is usual to give this band a coating of blacklead about every three weeks, so as to keep the surface smooth. In many cases, zinc borer traps are combined with these bands, and the actual insects caught. Owing, however, to the misuse to which these can be placed, they may help the borers, and so these traps are going out of use. The zinc bands cost in the neighbourhood of 3d. per tree. It is essential that a perfect union be made when the two ends overlap, otherwise the beetles can crawl over the unprotected part. This method is used with success by many growers, particularly at Doncaster.

Spreading tarpaulins under the trees and smartly tapping the tree catches the majority of the beetles that are missed by the sprays. The tarpaulin or piece of old blanket is placed under the tree so as to cover all the limbs, and then the tree smartly rapped with a wooden mallet. The adult beetles fall on to the tarpaulin or blanket, and can then be destroyed by fire or by putting in boiling water. This method can be recommended for destroying large numbers of the adult insects.

Fumigation of Citrus Trees

(*Continued from page* 619).

(*b*) *Irrigation and Cultivation.*—When possible, irrigation should be completed about three weeks prior to the commencement of fumigation, and the surface soil should be dry and cultivated to a fine tilth. When the surface soil is damp and the trees are covered with the fumigation sheet, the humidity beneath the sheet rapidly rises, and if the weather is warm, within a short period may even reach an undesirably high percentage. If any delay occurs before such a covered tree is fumigated it is quite conceivable that damage may result, although the humidity outside would not be abnormally high. A fine tilth on the soil surface ensures the flaps of the sheet resting evenly and closely on the ground, thereby reducing leakage.

If the grove has been carefully cultivated weeds will be suppressed. Weeds affect fumigation in two ways. The succulent weeds often found growing around the edges of orange trees, absorb excessive amounts of the gas, because of their watery nature and the affinity of the gas for moisture. Frequently, weeds growing in lands between the trees are infested with scale and are a source of re-infestation to the recently fumigated trees.

Many citrus-growers have beautified their homes by planting palms, vines, roses, oleanders, ivy, and many other plants. All these plants are hosts for red scale, and it is futile to expect fumigation in one season to effectively control this insect when a constant source of infestation is in the immediate vicinity. If such plants cannot be fumigated they should be sprayed thoroughly with a white oil emulsion.

Valencia Late orange trees, on which the fruit is allowed to hang until March or April, often present a difficult problem in red scale control, because the green developing fruit is infested readily from the mature oranges. If the ripe fruit is harvested before fumigation a more satisfactory control will be obtained.

To be continued.

This article will be concluded in the January number with a discussion of the factors affecting concentration of gas; the tolerance of the plant for Hydrocyanic acid; fumigation injury; mortality of scale, &c.

Orchard and Garden Notes

By Edward E. Pescott, F.L.S.

Marguerite Daisies.

The Flower Garden.

DECEMBER sown or planted Phlox will result in a very charming border of massed bloom lasting over several weeks of summer and autumn. If seed be sown, let it be sown rather thinly; seedlings should be transplanted here and there to fill out the border.

Another dainty border can be made by sowing seeds or setting out plants of Balsam. These gay-flowered annuals also last for weeks in summer and autumn.

For autumn displays of annuals, many plants may be used, such as Correopsis, Salpiglossis, and Zinnia; these are somewhat tall-growing plants, and should not be brought to the front of the borders. Taller annuals are the late-flowering Marigold and Cosmos. In sunny positions, where a very flat or low border is required, the free-flowering Portulaca may be placed. This is essentially a sun-loving flower.

Dahlias may be planted through December. Each plant should be staked, and when plants are established, water and manure should be given. During December and January the young growing plants should be watched for the two minute insects, leaf-eating thrips and canary fly. These insects suck the sap and destroy the young growth. They can be easily killed by an application or two of nicotine sulphate.

The Orchard.

The establishment in Victoria of two stationary spray pump systems indicates the beginning of a new era in orchard work. There are two forms of the system, one where the spray pipes are carried underground, and the second, in which the pipe reticulation is an overhead one.

At the most convenient and central position in the orchard a stationary engine and pump system is installed; here also are the large tanks in which the spray materials are mixed and prepared for distribution. The tanks may hold up to two or three hundred gallons, and at the bottom of each is an agitator formed on the principle of an aeroplane propellor. There are two tanks; in one the spray mixture is first poured; it is strained into the second for distribution.

The spray mixture is forced by the pump into the distributory pipes. At regular intervals along the pipes there are taps and connexions to which the hoses are fixed. The 100-ft. long hoses are enabled to spray trees over a diameter of 200 feet, so that the arrangement of pipes is easily designed.

At the orchard of Mr. Frank Pyke, at Ringwood, where the latest system has been installed, the owner estimates that the economic working, the quick and easy method of distribution, and the saving of human and horse labour, will practically pay the cost in one season. The principal points of advantage are quickness of distribution, a largely increased output of spray, no delay in work, and the releasing of horses for other work. The handling of spray materials in bulk is an important factor; another is that

pump traffic being unnecessary, the essential cultivation is lessened. It is estimated that by this new method one or two additional sprayings can be given to the trees in the same time as was required formerly for a single spraying.

The Vegetable Garden.

The usual injunction to keep the garden well watered this month may not be necessary, owing to the continued rainfall experienced in many districts. Still, the plants must not be neglected, and strict attention should be given to keeping the soil moist. Regular cultivation must not be neglected, as this not only aerates the soil, but it keeps down the weed growths, which are very abundant this year.

After digging potato beds and digging in old broad bean and pea crops for humus, the soil should be well trampled, and new crops, such as French beans and lettuce, established.

Sowings of seeds of Brussels sprouts, cauliflower, and cabbage may be made for early crops; the seeds should be sown in beds of a poor sandy soil.

Existing vegetable crops should be forced with applications of sulphate of ammonia or blood manure.

Melons, marrows, cucumbers, and similar plants should be sprayed with arsenate of lead, as soon as the first pumpkin beetles appear. These are small yellow and black beetles, very much in appearance like a ladybird.

Tomato and rhubarb crops must be kept well watered and manured.

Where stable manure is available it should be used as a mulch for all crops.

The Common Barberry (*Continued from page* 622).

availability, ease of handling, safety, and efficiency into account, was common salt. Any cheap grade will do. The quantity to be used depends on the size of the bush, according to the following formula from the U.S. Dep. Agr. Dept. Circ. 356: "For barberries having a group of shoots about 12 inches in diameter at the base, use 10 lb. of salt. For plants about 6 inches in diameter, use 5 lb. For small plants having only one or two shoots, use 2 lb. For large clumps, estimate the area at the surface of the ground, plus a border 6 inches in width, and use 2 lb. of salt for each square foot of this area. Pile the salt in and about the base of the plant so as to surround all shoots . . . . . If there is danger of the salt being disturbed by livestock it may be covered with dirt, stones, &c."

3. *Kerosene.*—The next best method to salting is to pour kerosene around the base of the plant so that it wets the base of every shoot and also the ground for 3 or 4 inches around every shoot. The action of the kerosene is slow. The quantity to be used for best results is arrived at as follows:—For barberries 12 inches in diameter at the base, use 1 gallon; for those 6 inches in diameter, use ½ gallon; for small plants, use 1 pint. For large clumps, estimate the area as described for salting, and use 1 quart per square foot. This method should be used in preference to salting in those places where valuable shrubs or trees are in close proximity to the barberry bush.

4. *Sodium Arsenite.*—Although very effective, sodium arsenite is very poisonous, and for this reason is not recommended in preference to salt or kerosene. It occurs in various forms: the form used in America was prepared by mixing 8 lb. of white arsenic (As_2O_3) and 2 lb. of caustic soda, and adding water to make 1 gallon. Heat is evolved and after some stirring a solution of sodium arsenite results. For field use, this was diluted with 40 gallons of water, and an average of about ½ pint per bush was used. The base of every shoot and the ground for a foot round was wetted with the solution.

The only failure of this method occurred where the ground was very wet owing to recent rain. Similar failure results when this and other arsenical compounds are used as sprays for the eradication of deep-rooted perennial weeds growing in wet soil.

The Relation of the Barberry to other Cereal Rusts.

It is of interest to note that the fungus *Puccinia graminis* is divisible into six biological varieties, of which the uredo- and teleuto-spores are met with on the cereals and grasses as follows:—

(1) *tritici*—on wheat and barley.
(2) *secalis*—on barley and rye.
(3) *avenae*—on oats, meadow foxtail, tall oat-grass, and cocksfoot.
(4) *airae*—on *Deschampsia caespitosa* (a "tussock" grass).
(5) *agrostidis*—on creeping bent grass and velvet bent grass.
(6) *poae*—on Kentucky blue grass.

The teleutospores from all these can infect the barberry, which adds another argument to the list in favour of its eradication.

Standard Herd Records

For Quarter ended 30th September, 1934

In the following is set out the records of all cows which completed a lactation during the quarter. The number is 641, of which 396 qualified for the certificate. The figure in brackets after the owner's name shows the number of entries.

The amount of butter-fat required for qualification varies according to the age of the animal (up to five years at time of calving), the standard being as follow:—

Junior 2 year old (under 2½ years at time of calving)	230 lb. butter fat.
Senior 2 year old (between 2½ and 3 years at time of calving)	250 lb. butter fat.
Junior 3 year old (between 3 and 3½ years at time of calving)	270 lb. butter fat.
Senior 3 year old (between 3½ and 4 years at time of calving)	290 lb. butter fat.
Junior 4 year old (between 4 and 4½ years at time of calving)	310 lb butter fat.
Senior 4 year old (between 4½ and 5 years at time of calving)	330 lb. butter fat.
Mature cow 5 years and over	350 lb butter fat.

(Except where otherwise stated, the period of Test was 273 days.)

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Allan, F. de V., Toora, Jersey (1).										
Wompini Happy Bell ..	36777	11.10.33	17½	7,049	4·93	347·79	270	Jr. 3	272 ..	Wompini Metal Master
Alston, N. B., Romsey, Jersey (7).										
Rosyth Bonnie Lassie ..	32871	4.10.33	13½	6,188	5·28	326·47	330	Sr. 4	295, 350, 393	Lord 2nd of Bruce Vale
Rosyth Cream Lass ..	C.R.	21.10.33	9½	4,188	5·33	223·34	230	Jr. 2	.. ..	Aveley Anthony
Rosyth Lady Daffodil ..	32873	1.10.33	10½	6,821	4·86	331·76	350	Mature	307, 340, 435	Lord 2nd of Bruce Vale
Rosyth Lady Magnet ..	32874	16.10.33	11½	5,388	5·43	292·70	350	Mature	286, 309, 406	Lord 2nd of Bruce Vale
Rosyth Lady Tulip 4th ..	36780	5.11.33	13½	5,669	5·13	290·85	310	Jr. 4	247 ..	Lord 2nd of Bruce Vale
Rosyth Tulip	21083	25.11.33	12½	7,895	5·10	402·56	350	Mature	440, 450, 468, 477, 499	Rosyth Hero
Rosyth Velveteen ..	41905	21.10.33	9	5,450	4·68	254·87	250	Sr. 2	243 ..	Rosyth Cream Socks
Atherton W. H., Murraydale, Jersey (8).										
Beverley Cream Lassie 3rd	32895	28.10.33	9	6,104	4·67	285·21	310	Jr. 4	235, 324 ..	Banyule Remon
Beverley Cream Lassie 6th	36817	11.10.33	10	5,285	5·68	299·98	250	Sr. 2	353 ..	Banyule Remon
Beverley Rosella 3rd ..	32900	21.10.33	8	5,574	5·37	299·09	290	Sr. 3	289 ..	Banyule Remon
*Beverley Tiny's Lass ..	24218	14.10.33	4	4,930	5·68	280·20	350	Mature	428, 328, 402, 379, 465	Rosella's Lad of King's Vale
Beverley Tiny's Lass 4th	36819	21.10.33	7½	4,490	6·29	282·52	270	Jr. 3	358 ..	Banyule Remon
Beverley Wattle Blossom ..	24219	28.9.33	5	9,026	4·58	413·22	350	Mature	320, 452, 459, 571	Rosella's Lad of King's Vale
Beverley Wattle Blossom 2nd	36820	18.11.33	12	5,386	5·13	276·14	270	Jr. 3	394 ..	Banyule Remon
Mythic of Beverley ..	18608	3.11.33	11	6,916	5·57	385·08	350	Mature	330, 361, 301, 521, 529, 426, 506	Rosella's Lad of King's Vale
Atkinson, W. K., Swan Hill, Dairy Shorthorn (15).										
Willow Park Blush ..	11069	14.12.33	19½	9,203	3·67	337·41	350	Mature	320, 368, 478, 494, 565, 515, 398, 416, 497, 517, 484	Havelock of Darbalara
Willow Park Camelia 3rd ..	D.S.H. B.A.	20.11.33	28½	12,377	4·17	516·06	350	Mature	307, 436, 422, 538	Willow Park Design
Willow Park Countess 3rd ..	D.S.H. B.A.	21.10.33	22	10,751	3·97	427·22	350	Mature	310, 397, 473, 467, 438	Willow Park Reliance
Willow Park Countess 4th ..	D.S.H. B.A.	22.10.33	16	9,276	4·10	380·67	350	Mature	283, 364, 399, 380	Willow Park Revenue
Willow Park Countess 8th..	D.S.H. B.A.	29.10.33	20	9,195	4·13	380·09	310	Jr. 4	260, 410 ..	Willow Park Eminent
Willow Park Countess 10th	D.S.H. B.A.	11.10.33	31	9,497	3·91	371·43	250	Sr. 2	.. ..	Willow Park Reflector
Willow Park Duchess 5th ..	13495	16.10.33	24½	10,898	3·81	415·29	350	Mature	259, 264, 307, 352, 376, 347, 432	Count of Willow Park
Willow Park Duchess 10th	D.S.H. B.A.	6.11.33	24	10,962	3·66	400·90	350	Mature	253, 360, 366, 388	Willow Park Diamond 2nd
Willow Park Fairy ..	13599	3.10.33	31	11,312	4·06	459·69	350	Mature	380, 528, 570, 646, 732, 712, 745, 712	Willow Park Stratagem

* 210 days in test.

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Atkinson, W. K., Swan Hill.—*continued.*										
Willow Park Fairy 4th ..	D.S.H.B.A.	7.10.33	26½	10,673	4·05	432·77	310	Jr. 4	360, 458 ..	Willow Park Reflector
Willow Park Fairy 5th ..	D.S.H.B.A.	26.10.33	21½	8,109	3·71	301·18	290	Sr. 3	.. ..	Willow Park Eminent
Willow Park Melba 8th ..	D.S.H.B.A.	6.10.33	24½	9,129	4·17	380·65	270	Jr. 3	341 ..	Willow Park Banker 2nd
Willow Park Moss Rose 3rd	D.S.H.B.A.	6.10.33	26	10,761	3·59	386·31	350	Mature	361, 355, 446	Willow Park Reflector
Willow Park Queenie 15th	D.S.H.B.A.	19.11.33	22	11,300	3·84	433·57	350	Mature	362, 387, 435, 451	Willow Park Reliance
Willow Park Queenie 24th	D.S.H.B.A.	3.10.33	14½	6,932	4·32	299·12	310	Jr. 4	276, 348 ..	Willow Park Design
Austin, F., Lara, Jersey (2).										
Avalon Duchess	18612	6.10.33	27	11,282	5·54	625·42	350	Mature	317, 399, 541, 663, 545	Mercedes Chief of Glen Iris
Avalon Gladstar's Beauty 5th	36821	27.10.33	15	5,554	6·72	373·22	270	Jr. 3	293 ..	Avalon Gladstar 2nd
Axford, W., Camperdown, Jersey (8).										
Leura Annette 2nd ..	25234	30.9.33	20	6,707	5·33	357·74	350	Mature	309, 404 ..	Monitor of Leura
Leura Beauty 6th ..	32910	18.10.33	14	6,408	5·51	353·36	330	Sr. 4	365 ..	Grant of Melrose
Leura Foxglove 2nd ..	40679	4.10.33	15½	6,483	5·49	356·03	270	Jr. 3	292 ..	Admiral of Leura
Leura Greta 5th	40682	15.10.33	20	6,611	4·69	310·01	270	Jr. 3	345 ..	Curiosity's King of Comely Banks
Leura Greta 7th	C.R.	16.10.33	10	3,632	5·34	193·91	230	Jr. 2	.. ..	Maitland's Petal Viscount of Elonera
Leura May 5th	28863	28.9.33	17	7,974	5·13	409·04	330	Sr. 4	365 ..	Curiosity's King of Comely Banks
Leura Silverbelle 7th ..	36845	27.9.33	19	6,986	5·28	368·76	310	Jr. 4	310, 359 ..	Admiral of Leura
Springvale Maisie ..	25248	30.10.33	21	8,208	5·05	414·84	350	Mature	312, 466 ..	Conqueror of Somerville
Ballarat Orphanage, Ballarat, Jersey (12).										
Orphanage Audrey's Molly 2nd	41398	8.10.33	6½	5,520	4·76	262·49	250	Sr. 2	290 ..	Wompini V.C.
Orphanage Doris ..	25255	24.10.33	18	5,788	4·73	274·03	350	Mature	285, 356 ..	Nobleman of Gardenvale
Orphanage Laddie's Zaffarine 2nd	36858	23.12.33	18½	7,327	5·43	397·70	310	Jr. 4	.. ..	Orphanage Laddie
Orphanage Mannikin's Attraction	32931	23.10.33	15	6,392	5·60	357·89	310	Jr. 4	260, 470 ..	Audrey's Prince of Banyule
Orphanage Starbright's Zaffarine	32932	24.10.33	11½	5,404	4·61	248·89	350	Mature	291, 338, 301	Staghorn Northern King
Orphanage Vanilla's Melba 2nd	32933	20.10.33	14	7,625	4·82	367·33	350	Mature	300, 292, 461	Audrey's Allan of Tavistock
Orphanage V.C.'s Attraction 2nd	41411	16.10.33	16½	7,140	4·87	347·70	270	Jr. 3	279 ..	Wompini V.C.
Tavistock Audrey's Molly 2nd	22966*	26.11.33	4	5,235	4·99	261·39	350	Mature	237, 344, 295, 416, 409	Audrey's Prince of Banyule
Molly of Tavistock	16240	20.12.33	16½	6,207	4·53	280·87	350	Mature	383, 375, 467, 447	Molly's Chief of Clover Flat
Trawalla Clara 11th ..	42285	23.12.33	10½	5,218	5·22	272·38	250	Sr. 2	328 ..	Kyora Substitute
Trawalla Clara 12th ..	42286	17.10.33	12½	5,768	5·51	317·74	230	Jr. 2	.. ..	Kyora Substitute
Orphanage Allan's Pearl ..	32927	12.12.33	4	5,247	4·66	244·42	350	Mature	241, 374, 295	Audrey's Allan of Tavistock
Barber, H. P., Somerville, Jersey (3).										
Somerville Northern Maid ..	25960	24.12.33	18	6,129	4·85	297·65	350	Mature	380, 402, 409	Repulse of Somerville
Somerville Valdera 2nd ..	36866	15.10.33	15	6,246	5·57	347·69	310	Jr. 4	367, 351 ..	Somerville Reputation
Westernport Valdera ..	42467	10.10.33	8½	4,569	5·58	254·86	250	Sr. 2	.. ..	Somerville Reputation
Bassett-Smith, C., Kyabram, Red Poll (6).										
Ardgour Catherine ..	1900AA	19.10.33	14	7,632	4·18	318·70	350	Mature	336 ..	Victoria King David
Flowing Vale Astroletta ..	2382B	27.9.33	9	8,288	3·79	314·50	350	Mature	271, 316, 361, 318	Dinkum Astrologer
Temperley Air Plane ..	2988A	16.11.33	11	6,909	4·45	307·34	270	Jr. 3	280 ..	Corriedale Royal Favourite
Temperley Sweet Pear ..	Vol. 8	28.10.33	10½	5,072	3·76	190·85	230	Jr. 2	.. ..	Earl of Beaconsfield
*Woodburn Dorcus ..	2098AA	25.10.33	4	7,290	3·92	285·78	350	Mature	197, 251 ..	Woodburn Standard
Woodburn Graceful ..	2105AA	27.10.33	8	7,119	3·57	254·33	350	Mature	249, 260 ..	Whiteway Wiseman
Bidgood Estate, Late F., Staghorn Flat, Jersey (4).										
Staghorn Aldanesse ..	42004	14.11.33	27½	7,583	6·00	455·21	230	Jr. 2	.. ..	La Sente's Lord Aldan (Imp.)
Staghorn Aldan's Clementine	C.R.	17.10.33	14½	5,102	6·24	318·53	230	Jr. 2	.. ..	La Sente's Lord Aldan (Imp.)
Staghorn Master's Grace ..	C.R.	19.12.33	..	4,470	5·65	252·60	230	Jr. 2	.. ..	Werribee Northern Masterpiece
Staghorn Master's Madeira	22984	7.10.33	27	8,756	5·29	462·90	350	Mature	294, 431, 490, 459, 485	Werribee Northern Masterpiece

* 240 days in test.

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Black, Mrs. A. J., Noorat, Jersey (5).										
Noorat Anemone ..	36910	5.11.33	13	6,119	6·31	386·15	290	Sr. 3	361 ..	Noorat Musician
Noorat Cecilia	41286	13.10.33	12½	4,854	5·49	266·43	230	Jr. 2	.. ..	Banyule Superlative
Noorat Guitar	32990	30.9.33	18½	7,220	5·27	380·45	310	Jr. 4	250, 338 ..	Cellist of Warenda
Noorat Sunset	41290	18.10.33	13½	5,533	5·55	307·06	250	Sr. 2	.. ..	Banyule Airo
Noorat Velveteen.. ..	36912	12.11.33	18½	7,577	5·80	439·60	290	Sr. 3	.. ..	Air Lord of Banyule
Black, I. S., Noorat, Ayrshire (1).										
Sparrovale Georgina ..	16658	10.11.33	15	10,517	4·16	437·28	350	Mature	404, 435, 402	Scottish Fame of Gowrie Park
Bott, J., Yarrawonga, Red Poll (2).										
Blackwood Dittum ..	2143A	15.11.33	31½	12,085	3·98	480·85	350	Mature	466 ..	Bellum Victor
Naranghi Lilac	3140B	25.11.33	25½	9,230	4·39	404·87	310	Jr. 4	422 ..	Woodburn Premier
Box, late Dr. J., Noojee, Jersey (3).										
*Toorongo Defenders Queen	36940	20.11.33	4	3,218	5·72	183·93	270	Jr. 3	199 ..	Toorongo Mercedes King
*Toorongo Laura ..	36941	8.11.33	4	2,895	5·21	150·78	250	Sr. 2	106 ..	Toorongo Mercedes King
*Toorongo Twylish Queen	33011	13.11.33	4	3,780	5·14	194·43	310	Jr. 4	144, 191 ..	Toorongo Mercedes King
Box, late Dr. J., Whittlesea, Jersey (6).										
Gay Girl of Eurungee ..	18824	15.10.33	N.O.C.	3,627	5·08	184·18	350	Mature	298, 294, 258, 269	Jessie 13th's Count of Melrose
Melview Empress 2nd ..	33009	12.12.33	11	4,820	6·05	291·62	330	Sr. 4	333 ..	Handsome Boy 12th of Jerseyholm
Toorongo Gay Girl 2nd ..	42262	2.10.33	9½	4,238	5·44	230·74	230	Jr. 2	.. ..	Toorongo Mercede's King
Toorongo Heather Belle ..	42263	16.10.33	11	4,485	5.10	228·55	230	Jr. 2	.. ..	Toorongo Mercede's King
Toorongo Jessie	42264	28.10.33	14	5,442	5·60	304·97	230	Jr. 2	.. ..	Werribee Lord Fancy
Toorongo Kathleen ..	42265	8.11.33	9	4,064	6·01	244·35	250	Sr. 2	.. ..	Toorongo Maori Chief
Boyes, C., Leneva West, Jersey (1).										
Kintore Morocco's Daisy 2nd	33017	1.10.33	11	7,292	5·10	371·95	310	Jr. 4	315 ..	Kintore Clementine's King
Broad, A. A., Sutton Grange, Jersey (11).										
Daffodil of Grangelea ..	18648	8.11.33	22	8,837	5·37	474·79	350	Mature	433, 500, 500, 501, 517, 549	Mistletoe 2nd's V.C. of Tarnpirr
Glenoshea Velveteen ..	28494	8.10.33	20	8,604	4·74	407·96	330	Sr. 4	245, 347, 393	Burnside Mooltan
Grangelea Daisy Bell ..	33034	1.10.33	17	7,164	4·75	340·46	290	Sr. 3	247, 334 ..	Banyule Macon
Grangelea Dawn	33037	2.11.33	17	6,333	5·89	373·17	290	Sr. 3	307, 388 ..	Banyule Macon
Grangelea Dulcie ..	40062	18.10.33	17	5,645	5·38	303·65	230	Jr. 2	.. ..	Grangelea Daffodil's Airo
Grangelea Golden ..	28499	4.10.33	20½	9,023	5·36	483·28	350	Mature	335, 470, 551	Dandy of Grangelea
Grangelea Primrose 2nd ..	26392	18.10.33	22	7,472	5·22	390·25	350	Mature	318, 401, 429, 435	Mistletoe 2nd's V.C. of Tarnpirr
Grangelea Rose 3rd ..	40066	7.10.33	15½	6,158	5·62	345·98	230	Jr. 2	.. ..	Banyule Macon
Grangelea Roseleaf 2nd ..	26394	7.10.33	20	8,984	5·05	454·05	350	Mature	305, 384, 455, 476	Mistletoe 2nd's V.C. of Tarnpirr
Grangelea Roseleaf 3rd ..	33041	26.10.33	17½	7,328	5·44	398·71	310	Jr. 4	326, 404 ..	Banyule Airo
Rosebud 3rd of Grangelea	18651	11.10.33	17	7,850	4·81	377·22	350	Mature	329, 411, 403, 391, 426	Golden Twylish
Buchanan, J. M., Flinders, Ayrshire (8).										
Gleneira Dancer	26206	20.10.33	12½	4,490	4·36	195·81	230	Jr. 2	.. ..	Gleneira Don
*Gleneira Diadem ..	22836	3.12.33	4	6,600	3·51	231·87	270	Jr. 3	244 ..	Gleneira Knight
Gleneira Honeyflower ..	14478	3.10.33	9	7,527	3·77	283·84	350	Mature	238, 331, 322	Aristocrat of Gleneira
Gleneira Lea	26209	21.10.33	5	4,611	3·82	176·18	230	Jr. 2	.. ..	Gleneira Don
Gleneira Likeness.. ..	20138	4.10.33	9	7,889	4·16	328·25	350	Mature	332, 350, 295	Algie of Oakbank
Gleneira Loch 2nd ..	26210	26.10.33	9	4,652	4·01	186·44	270	Jr. 3	.. ..	Gleneira Don
Gleneira Princess Marie ..	23847	4.10.33	13½	7,560	3·95	298·39	310	Jr. 4	246 ..	Gleneira Desmond
Gleneira Violin	22839	15.10.33	6	5,190	4·99	259·12	290	Sr. 3	.. ..	Gleneira Briton
Cayley, W. C., Werribee, Ayrshire (2).										
Riversdale Jazz Queen ..	23201	19.10.33	9	6,271	3·97	249·16	290	Sr. 3	238 ..	Hotstuff of Sparrovale
Riversdale Trixie ..	24273	22.10.33	11½	6,875	3·87	266·22	230	Jr. 2	.. ..	Hotstuff of Sparrovale
Chadderton, J. E., Hamilton, Jersey (3).										
Glen Leigh Duchess 4th ..	25791	29.9.33	18½	8,441	5·65	476·55	350	Mature	266, 455 ..	Gadabout of Danton
Glen Leigh Foxglove ..	24287	16.11.33	24	8,195	5·27	431·48	350	Mature	308, 402, 433, 432	Gadabout of Danton
Glen Leigh Lassie ..	33097	15.10.33	13½	6,092	5·16	314·21	310	Jr. 4	316, 407 ..	Gadabout of Danton
Charlton, J., Stony Creek, Jersey (8).										
Lumeah Aster	33104	2.11.33	9	6,541	5·37	351·34	310	Jr. 4	308, 344 ..	Burnside Invincible
Lumeah Foxglove ..	24289	9.11.33	15½	7,680	5·47	420·40	350	Mature	362, 405, 435, 415	Burnside Invincible
Lumeah Hazel	37048	11.10.33	12½	6,542	5·57	364·15	270	Jr. 3	363 ..	Burnside Invincible
Lumeah Laurel	33108	11.11.33	10	6,860	4·92	337·60	310	Jr. 4	265, 351 ..	Burnside Invincible
Lumeah Maggie	40785	5.10.33	10½	5,200	5·07	263·54	230	Jr. 2	.. ..	Clarendon Eyre Eminent's Dinkie
Lumeah Rosebud.. ..	26306	11.11.33	12½	7,819	4·85	379·00	350	Mature	283, 334, 342, 419	Burnside Invincible
Lumeah Sunbeam ..	24293	2.11.33	15½	8,618	5·14	442·99	350	Mature	314, 328, 441, 393, 494	Burnside Invincible
Lumeah Trilby	40792	4.10.33	5½	4,281	5·22	223·54	230	Jr. 2	.. ..	Clarendon Eyre Eminent's Dinkie

* 240 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Chirnsdie, R. M., Whittlesea, Jersey (4).										
Mornmoot Clementine ..	41121	4.11.33	16½	5,889	5·63	331·45	230	Jr. 2	.. ..	Werribee Prince Madeira
Mornmoot Fancy Madeira ..	37059	4.12.33	14½	8,090	5·36	433·57	250	Sr. 2	280 ..	Werribee Prince Madeira
Mornmoot Maid 2nd ..	33126	22.12.33	26	8,462	5·78	489·30	270	Jr. 3	406 ..	Werribee Prince Madeira
Mornmoot Princess Madeira	37071	11.12.33	24	9,864	5·80	572·36	250	Sr. 2	424 ..	Werribee Grandmaster
Chitty, C., Kongwak, Jersey (1).										
Ewelme Northern Girl ..	39691	11.11.33	13½	4,691	5·41	253·87	270	Jr. 3	244 ..	Northern Master of Glen Iris
Christie, D. G. M., Echuca, Jersey (1).										
Dungwen Sunflower ..	C.R.	6.12.33	10	4,420	4·13	182·59	230	Jr. 2	.. ..	Fourshell's Pat 2nd
Clarke, A. B., Glenormiston South, Jersey (1).										
Denniston Blue Bird ..	33171	16.10.33	9	5,630	5·11	287·86	310	Jr. 4	295, 365 ..	Cellist of Warenda
Clark, F. W., Toora, Jersey (1).										
*Clydevale Cora	24329	24.12.33	4	4,920	5·39	265·02	350	Mature	255, 336, 346	Marmion of St. John's
Clark, P. W., Whittlesea, Jersey (1).										
Coodardy Gloria 3rd ..	C.R.	19.10.33	15	5,081	5·82	295·76	230	Jr. 2	.. ..	Kantara Don Juan
Clyne, J., Estate of the late, Upper Maffra West, Jersey (1).										
‡Paisley Ipomel	41468	14.10.33	N.O.C.	6,420	5·19	332·88	250	Sr. 2	350 ..	Werribee Master Key
Colenso, L. W. R., Alvie, Jersey (1).										
Ilma of Hazelbrock ..	18668	24.10.33	20½	8,675	4·90	425·19	350	Mature	444, 458, 495, 569	Progress of Colac
Cox, A., Mount Scoble, Jersey (4).										
†Tavistock Honesty 3rd ..	37148	28.10.33	..	6,975	5·18	360·96	310	Jr. 4	311, 453 ..	Audrey's Prince of Banyule
†Tavistock May	28611	6.11.33	..	7,800	5·62	438·66	350	Mature	252, 341, 345, 420	Audrey's Prince of Banyule
†Tavistock May Queen ..	33222	14.10.33	..	5,940	5·61	333·39	310	Jr. 4	269, 444 ..	Audrey's Prince of Banyule
†Tavistock Rose	28614	8.11.33	..	6,810	5·83	396·72	350	Mature	271, 369, 425, 404	Audrey's Prince of Banyule
Crawford, Mrs. E., Yinnar, Jersey (2).										
Balcairn Rare Rose ..	38761	19.10.33	18	6,589	5·35	352·33	270	Jr. 3	315 ..	Balcairn Master Musician
Balniel Golden Petal ..	38784	8.11.33	18½	5,981	5·84	349·20	250	Sr. 2	294 ..	Coolooli Jersey King
Day, E., Penshurst, Jersey (2).										
View Point Duchess ..	24325	18.10.33	13	6,431	5·19	333·54	350	Mature	314, 359, 334, 463	Keepsake's Treasure of Lynuilg
View Point Golden Bright ..	24326	3.10.33	12½	6,488	5·45	353·73	350	Mature	263, 392, 374, 479	Keepsake's Treasure of Lynuilg
Dee, J., North Clyde, Jersey (4).										
*Aveley Melista ..	25410	30.11.33	4	4,523	4·92	222·54	350	Mature	301, 383, 390	Choirmaster of Banyule
Clydevale Coreen ..	C.R.	20.10.33	13½	5,090	5·23	266·36	230	Jr. 2	.. ..	Staghorn Master Defiance
Clydevale Jewel	C.R.	1.10.33	11½	4,105	5·94	243·69	230	Jr. 2	.. ..	Banyule Aristocrat
Mooroodue Hope ..	23480	28.11.33	12½	6,536	4·48	293·11	350	Mature	377, 464, 362, 343	His Majesty of Somerville
De La Rue, N. C., Weering, Jersey (2).										
Lucerne Vale Master's Queen	C.R.	1.12.33	5½	5,091	5·48	279·21	230	Jr. 2	.. ..	Werribee Fancy Masterpiece
†Lucerne Vale Masterpiece's Trixie	C.R.	6.12.33	4	4,950	5·26	260·34	230	Jr. 2	245 ..	Werribee Fancy Masterpiece
Department of Agriculture, Werribee, Friesian (4).										
Victoria Dutch Girl ..	3761	3.12.33	20	8,717	3·76	328·17	290	Sr. 3	334 ..	Victoria Topnote
Victoria Ilkedes	3763	8.12.33	30½	11,057	3·79	418·57	270	Jr. 3	381 ..	Victoria Joyous Mercedes
Victoria Joyous Piebe ..	3259	14.11.33	19½	14,342	3·76	538·75	350	Mature	381, 374, 500	Victoria Joyous Mercedes
Victoria Songstress ..	3768	27.11.33	15½	13,212	3·30	435·35	310	Jr. 4	347 ..	Victoria Joyous Mercedes
Department of Agriculture, Werribee, Red Poll (15).										
Victoria Barcarolle ..	2303A	5.10.33	8½	4,989	4244	221·51	350	Mature	284, 328, 272	Victoria Air Marshal
Victoria Basquine ..	C.R.	24.10.33	10	4,150	4·90	203·15	230	Jr. 2	.. ..	Dominion Bright Belgian
Victoria Bright Bell ..	3010A	19.10.33	8½	5,787	4·24	245·59	250	Sr. 2	.. ..	Dominion Br ght Belgian
Victoria Clear Vision ..	3014A	24.10.33	12½	5,772	4·18	241·11	250	Sr. 2	.. ..	Dominion Bright Belgian
Victoria Eructation ..	3226C	6.10.33	9½	7,823	4·35	339·92	330	Sr. 4	338, 369 ..	Victoria Volcano
Victoria Glitter	3909A	29.9.33	14	5,415	4·41	238·86	230	Jr. 2	.. ..	Dominion Bright Belgian
Victoria Guilder	2430B	11.12.33	13½	6,014	4·56	274·08	350	mature	346, 310, 396	Victoria Air Marshall
Victoria Nicotina ..	3027A	30.10.33	12½	7,269	4·40	319·86	290	Sr. 3	323 ..	Earl of Beaconsfield
Victoria Plumage ..	3029A	26.11.33	9½	4,643	5·28	245·37	290	Sr. 3	272 ..	Vice Regal
Victoria Rosary	2759AA	23.10.33	9½	5,829	4·45	259·27	270	Jr. 3	215 ..	Victoria Major Royal
Victoria Separation ..	3926A	24.12.33	18	5,115	4·20	214·65	230	Jr. 2	.. ..	Dominion Bright Belgian
Victoria True Blue ..	3039A	15.10.33	11	7,097	4·68	331·84	330	Sr. 4	290 ..	Vice Regal
Victoria Volt	4049B	15.10.33	16	6,473	4·58	296·48	230	Jr. 2	.. ..	Victoria Vice Captain
Victoria White Rose ..	1523AA	10.10.33	5	7,986	4·27	341·21	350	Mature	294 302, 280	Belligerent (Imp.)
Victoria Wild Rose ..	3042A	1.12.33	9½	6,893	4·54	313·08	310	Jr. 4	228, 269 ..	Vice Regal

* 210 days in test. † 240 days in test. ‡ 240 days in test, herd withdrawn.

Standard Herd Records —*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Desmond, J. J., Rochester, Jersey (4)										
Macroom Sweet Nell	33277	3.12.33	10	6,645	6·03	400·38	310	Jr. 4	314, 444 ..	Belgonia Battery
Preston Countess 2nd	25353	30.10.33	20	8,847	4·34	384·36	350	Mature	279, 347, 367, 400, 443	Acacia King
Preston Fern Dell	25355	27.11.33	12½	7,413	4·37	323·97	350	Mature	241, 340, 331, 315	Perrie's Count of Glen Iris
Waratta Edna Bell	28660	11.10.33	14½	9,456	5·00	472·45	350	Mature	383, 409, 399, 514	Jubilee Lifelight
Dickinson, Bros., Sebastopol, Friesian (2).										
*Ashby Jule	3828 Vol. 12	4.11.33	4	4,020	3·52	141·54	250	Sr. 2	181 ..	Bolobek Sampson
Ashby Queenie 7th	2995	6.12.33	27½	8,474	3·65	309·63	350	Mature	323, 311 ..	Ashby General Paul
Dobson, R. J. M., Acheron, Jersey (1).										
Wattle Grove Jennifer J.	37235	10.10.33	13	5,874	4·93	289·47	250	Sr. 2	297 ..	Admiral of Fairview
Dookie Agricultural College, Dookie, Ayrshire (1).										
Dookie Shirley	24815	23.10.33	14	8,825	3·49	307·82	290	Sr. 3	466 ..	Longerenong Laurie
Downie Bros., Longwarry South, Ayrshire (6).										
Glen View Betty 5th	C.R.	28.10.33	20½	6,367	4·02	256·15	230	Jr. 2	.. ..	Gowrie Park Standard Bearer
Glen View Nessie	21615	12.10.33	5½	6,456	4·23	276·47	350	Mature	232, 198 ..	Gowrie Park Dairyboy
Glen View Nessie 4th	C.R.	18.10.33	13	5,003	3·97	198·65	230	Jr. 2	.. ..	Gowrie Park Standard Bearer
Glen View Odette 2nd	21617	9.10.33	8½	7,572	4·01	303·59	350	Mature	188, 292 ..	Gowrie Park Dairyboy
Glen View Odette 6th	C.R.	11.11.33	16	5,301	3·75	198·88	230	Jr. 2	.. ..	Gowrie Park Standard Bearer
Glen View Topsy 3rd	C.R.	28.9.33	14	4,436	4·33	192·30	270	Jr. 3	120 ..	Gowrie Park Dairyboy
Ducat, P. J. and Sons, Ardmona, Jersey (5).										
Airlie Beatrice 5th	38647	6.11.33	14	5,599	6·06	339·18	230	Jr. 2	.. ..	Banyule Endeavour
Airlie Buttercup 10th	C.R.	19.11.33	16	6,694	4·96	331·92	230	Jr. 2	.. ..	Hedge of Banyule
Airlie Duchess	33312	13.11.33	13	6,970	5·43	378·43	350	Mature	236, 334, 347	Twist of Banyule
Airlie Goldrop	C.R.	31.10.33	13	5,829	5·66	329·81	230	Jr. 2	.. ..	Hedge of Banyule
Airlie Meadow Queen	C.R.	8.11.33	15	5,793	5·77	334·28	230	Jr. 2	.. ..	Airlie Goldfinder
Dwyer, G., Balwyn, Jersey (1).										
Karalee Linda	37302	26.10.33	23½	7,907	5·81	459·12	310	Jr. 4	403, 349 ..	Karalee Duke
Edwards, T. J., Sale, Jersey (5).										
Chandos Fairy	37312	9.11.33	24	7,905	6·06	479·09	290	Sr. 3	320, 436 ..	Fairbank Peter
Merami Princess	37320	9.10.33	23	8,631	5·62	486·86	290	Sr. 3	338, 507 ..	Royal Remus of Overlook
Rockburn Trissie	30957	24.11.33	21	9,047	4·99	451·12	350	Mature	264, 355, 430, 540	Woodlupine Gay Boy
Sunny Brae Morocco	25363	25.10.33	26	8,808	5·39	474·96	350	Mature	330, 339, 473, 515	Rosemont Primrose 2nd's Noble
Sunny Brae Poppy	26364	28.11.33	12	7,363	5·74	422·58	350	Mature	237, 354, 425, 409	Rosemont Primrose 2nd's Noble
Emmett, W. H., Stanhope, Jersey (1).										
Coolwoola Pearl 3rd's Princess	39359	28.9.33	11	6,003	5·62	337·34	310	Jr. 4	.. ..	Montrose Dancer of Glen Iris
Enders, N. H., Stanhope, Jersey (9).										
Buttercup of Belgonia	21490	23.12.33	12	6,364	5·33	339·16	350	Mature	432, 515, 503, 546, 519	Bright Twylish of Belgonia
Molly 18th of Banyule	14193	16.12.33	18½	7,451	4·99	371·55	350	Mature	351, 392, 478, 373, 568	Wotton Airman (Imp.)
Rintoul View Rosemary	38214	30.9.33	14½	7,290	6·17	449·88	250	Sr. 2	441 ..	Banyule Triplane
The Wattles Fairy	25869	21.10.33	20	8,343	5·05	421·65	350	Mature	403, 476, 582	Choice Prince of Belgonia
The Wattles Hazel	37345	23.12.33	12	5,118	4·98	254·69	270	Jr. 3	.. ..	Prince of The Wattles
The Wattles Joy	37346	30.10.33	16	9,343	4·62	431·37	310	Jr. 4	463, 605 ..	Choice Prince of Belgonia
The Wattles Myras Choice	25870	25.10.33	8½	8,687	5·63	489·26	350	Mature	405, 501, 544, 639	Choice Prince of Belgonia
The Wattles Pearl 2nd	33989	28.11.33	22	7,949	5·14	408·23	310	Jr. 4	404, 490 ..	The Wattles Myra's Lad
The Wattles Princess 2nd	33990	17.11.33	13½	6,368	6·19	393·99	290	Sr. 3	372, 470 ..	The Wattles Northern Duke
Esler, G., Tongala, Jersey (1).										
Maiwand Stockings	25882	27.11.33	17	6,946	5·85	406·48	350	Mature	376, 503, 432	Maiwand Chief
Evans, A., Heywood, Jersey (4).										
Boronia Farm Dainty Lass	28693	21.11.33	N.O.C.	6,524	6·22	405·87	350	Mature	287, 317, 396	Boronia Farm Prince
Boronia Farm Dot	37363	30.11.33	N.O.C.	3,912	5·39	210·98	270	Jr. 3	.. ..	Boronia Farm Prince
Boronia Farm Ruby	38999	30.9.33	N.O.C.	5,022	4·68	235·22	230	Jr. 2	.. ..	Boronia Farm Bonnie Chief
Kelvin Brook Lotus	29547	19.11.33	19	6,173	5·70	351·63	350	Mature	322, 355, 304	Staghorn Lotus Cream's Masterpiece
Fairchild and Clutterbuck, Tinamba, Jersey (4).										
Vaucluse Empress 2nd	C.R.	10.12.33	12	4,827	5·74	277·02	230	Jr. 2	.. ..	Somerville Repeater
Vaucluse Kirsty 2nd	C.R.	21.11.33	16	5,904	5·55	327·44	230	Jr. 2	232 ..	Somerville Concentration
Vaucluse Pansy	C.R.	24.10.33	14	4,841	6·32	305·94	230	Jr. 2	.. ..	Somerville Concentration
Xavier Kirsty	28923	16.10.33	18	5,997	5·72	343·00	350	Mature	286, 391, 341, 372	Lord Island Fancy of Brucevale

* 240 days in test.

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Findlay, G., Leitchville, Jersey (5).										
Leven Brae Gay Fancy ..	37368	22.11.33	17	8,665	4·56	394·78	330	Sr. 4	278, 396, 448	Werribee Gaypiece
Leven Brae Gay Countess ..	40698	27.9.33	13	8,722	4·68	407·84	350	Mature	247, 342, 441, 531	Werribee Gaypiece
Leven Brae Gay Lady ..	28926	16.11.33	5½	7,573	4·65	352·04	350	Mature	272, 351, 428, 400	Werribee Gaypiece
Leven Brae Gay Peeress ..	33340	10.12.33	17	6,796	5·86	398·45	350	Mature	248, 324, 243, 476	Werribee Gaypiece
Leven Brae Twylish's Perree	21276	23.10.33	13	7,563	4·92	371·84	350	Mature	229, 357, 483, 418, 409, 472, 493	Twylish Fox of Colac
Findlay, T. R., Leitchville, Jersey (6).										
Leven Brae Gay Clementine	C.R.	1.10.33	12½	4,777	5·64	269·55	230	Jr. 2	.. ..	Werribee Gaypiece
Leven Brae Gay Duchess ..	37376	20.11 33	16	7,618	5·27	402·66	310	Jr. 4	398, 455 ..	Werribee Gaypiece
Leven Brae Gay Peeress 7th	C.R.	31.10.33	6½	4,711	6·14	289·04	230	Jr. 2	.. ..	Werribee Gaypiece
Leven Brae Gay Rose ..	37377	25.12.33	16	7,887	5·38	424·31	350	Mature	317, 391, 473	Werribee Gaypiece
Leven Gay Queenie ..	33342	17.10.33	18	9,553	5·93	566·69	350	Mature	423, 553, 643	Werribee Gaypiece
Leven Brae Rosette ..	C.R.	28.9.33	13	6,111	5·23	319·60	230	Jr. 2	.. ..	Leven Brae Madeira's King
Fisken, A. C., Yendon, Dairy Shorthorn (2).										
Lal Lal Roan Princess ..	D.S.H. B.A.	17.12.33	N.O.C.	5,540	3·76	208·54	290	Sr. 2	.. ..	Hillcrest Renown 17th
Morven Cressida 22nd ..	Vol. 1	27.9.33	30	11,450	3·59	410·93	350	Mature	282, 282, 298, 390	Connaught 60th
Fixter, A., Boisdale, Guernsey (1).										
Fernlea Rosebud ..	2681	9.10.33	16½	7,043	5·34	376·31	350	Mature	285, 344, 386, 373	Werribee Jessie's Boy
Fixter, W., Boisdale, Jersey (8).										
Olivedale Dianthus ..	34006	19.10.33	18	7,568	5·53	418·60	310	Jr. 4	261, 425 ..	Studleigh Masterpiece
Olivedale Dianthus 2nd ..	C.R.	22.10.33	14½	6,492	5·09	330·36	230	Jr. 2	.. ..	Bellefaire Blonde's Blondex
*Olivedale Duchess 3rd ..	C.R.	18.11.33	4	5,400	5·32	287·01	230	Jr. 2	.. ..	Studleigh's Dandy
Olivedale Queenie ..	24353	5.12.33	12	6,728	5·30	356·26	350	Mature	312, 309, 336, 346, 453	Emperor (964)
Olivedale Queenie 2nd ..	C.R.	20.11.33	11	4,158	6·43	267·51	230	Jr. 2	.. ..	Studleigh's Dandy
Olivedale Stockings ..	37382	7.12.33	12	5,694	5·82	331·58	330	Sr. 4	298, 347 ..	Studleigh's Dandy
Studleigh Dianthus 4th ..	25288	10.10.33	16	7,628	5·50	419·79	350	Mature	303, 311, 424	Werribee Madeira Starbright King
Studleigh Wyandotte's Cream	25297	3.10.33	16½	6,080	5·78	351·41	350	Mature	209, 228 ..	Werribee Madeira Starbright King
Foster Bros., Boisdale, Jersey (6).										
Boisdale Butterfly ..	C.R.	9.10.33	8½	4,841	5·57	269·45	230	Jr. 2	.. ..	Springhurst Gladiator
Boisdale Ettie	C.R.	3.11.33	14	5,450	6·56	298·69	230	Jr. 2	.. ..	Boisdale Spark
Boisdale Fairy	C.R.	24.10.33	8	3,396	6·00	203·62	230	Jr. 2	.. ..	Springhurst Gladiator
Boisdale Nightshade ..	C.R.	19.10.33	11	3,813	5·78	220·53	230	Jr. 2	.. ..	Springhurst Gladiator
King's Vale Brunette 18th..	16581	24.10.33	16	6,910	5·00	345·37	350	Mature	256, 348, 405, 392, 388, 447	Rosella's V.C. of King's Vale
Myrtleview Sweet Maid ..	41208	15.11.33	13	5,070	5·60	284·07	230	Jr. 2	311 ..	Summerhill Economist
Fraser, G. A., Addington, Ayrshire (2).										
†Glengowrie Elma ..	23872	9.11.33	4	4,245	4·34	184·23	290	Sr. 3	243, 248 ..	Glengowrie Baronet
Roxburgh Graceful 2nd ..	16597	13.10.33	7½	7,373	4·15	306·07	350	Mature	299, 284, 330, 263	Victory of the Oaks
Freestone, P. A., Murchison, Jersey (2).										
Audley Princess Beauty ..	C.R.	13.11.33	28	5,522	4·41	243·76	230	Jr. 2	.. ..	Belgonia Cobham
Belgonia Romany Lass ..	17800	28.9.33	13	7,905	4·69	370·97	350	Mature	353, 496, 489, 537, 412, 434, 450	Prince of Belgonia
Garden, A., Swan Hill, Red Poll (3).										
Ardgour Mary 4th ..	2612AA	12.10.33	12	6,002	4·16	249·69	270	Jr. 3	.. ..	Marshland's Royal Saracen
Glenbrook Coral	C.R.	26.10.33	16	4,991	4·12	205·76	230	Jr. 2	.. ..	Glenbrook Cherry Bob
Glenbrook Viola	C.R.	4.10.33	19	5,904	3·48	211·58	250	Sr. 2	.. ..	Woodburn Samson
Gardener Bros., Welshpool, Jersey (5).										
Lauriston Bluebelle 2nd ..	40635	30.9.33	13	5,915	5·17	305·86	250	Sr. 2	224 ..	Lauriston Twylish Nobility
Lauriston Island Pansy ..	37408	10.11.33	23	7,299	5·78	421·68	270	Jr. 3	347 ..	Jerseyholm Island King 7th
Lauriston Lily's Duchess ..	40639	26.10.33	13½	4,883	5·32	259·94	230	Jr. 2	.. ..	Rathlyn Lily's Master
Lauriston Musical Belle 2nd	40645	11.10.33	10	4,124	5·00	200·88	230	Jr. 2	.. ..	Lauriston Twylish Nobility
Lauriston Musical Princess	34016	5.10.33	11	6,741	5·02	338·14	350	Mature	226, 317 ..	Musician of Warenda
Gay, R. G., North Devon, Jersey (3).										
Elm Grove Dairymaid 2nd	C.R.	11.10.33	10½	4,978	5·53	275·48	230	Jr. 2	.. ..	Warenda Ragtime Dominant
Elm Grove Jessie Fowler 3rd	C.R.	16.12.33	20	6,233	4·64	289·33	230	Jr. 2	.. ..	Warenda Ragtime Dominant
Elm Grove Laura ..	37416	23.10.33	12	5,707	5·92	338·03	250	Sr. 2	283 ..	Gold Star of Melrose
Gilchrist, A. J., Koo-wee-rup, Jersey (1).										
Grassmere Hazel Ruby ..	C.R.	29.9.33	10½	5,077	5·93	300·85	230	Jr. 2	.. ..	Werribee Planet

* 240 days in test. † 180 days in test.

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Goddard, J. H., Jumbunna, Ayrshire (2).										
Donside Lydo Lady ..	23657	5.11.33	14	10,454	4·37	456·50	310	Jr. 4	.. ..	Olivedale Chum
Inverurie Real	23033	24.10.33	4	6,727	3·44	231·20	270	Jr. 3	.. ..	Glen Cooee Editor
Gorman, W. A., Alexandra, Ayrshire (4).										
Cathcart Harmony ..	23563	18.10.33	10	4,937	4·36	215·39	230	Jr. 2	.. ..	Poppy's Advance of Ben Kell
Cathcart Mirth	23571	10.11.33	10	3,957	4·15	164·39	230	Jr. 2	.. ..	Poppy's Advance of Ben Kell
Cathcart Muriel	13522	20.10.33	24	11,219	4·92	551·95	350	Mature	206, 298, 403, 370, 499, 523, 531	Poppy's Advance of BenKell
Cathcart Music	21143	18.10.33	10	7,863	4·29	337·29	310	Jr. 4	351 ..	Poppy's Advance of Ben Kell
Gregg, V., Whittlesea, Jersey (4).										
Stoneycroft Miss Catherine	37437	15.10.33	18½	7,968	4·63	368·80	310	Jr. 4	268, 349 ..	Kantara Don Juan
Stoneycroft Plum ..	37438	25.11.33	16½	5,885	6·07	357·08	290	Sr. 3	283, 319 ..	Kantara Don Juan
Stoneycroft Una 3rd ..	C.R.	11.11.33	17	6,365	5·35	340·68	230	Jr. 2	.. ..	Toorongo Mac
Stoneycroft Una 4th ..	C.R.	26.11.33	10	3,743	6·93	259·55	230	Jr. 2	.. ..	Toorongo Mac
Handbury, J. E. and Sons, Toora, Jersey (Home Farm) (2).										
Tooravale Noreen ..	23191	27.10.33	17½	6,881	5·93	408·25	350	Mature	290, 293, 367	Welkin of Melrose
Tooravale Princess 6th ..	34055	30.11.33	21	7,781	6·44	500·72	270	Jr. 3	263 ..	Tooravale Goldspeck
Handbury, J. E. and Sons, Toora, Jersey (Share Farm) (3).										
Tooravale Lassie Fowler 10th	42255	31.10.33	12	5,337	5·59	298·32	250	Sr. 2	225 ..	Kingsvale Monica 14th's Son
Tooravale Lassie Fowler 11th	Vol. 21	25.11.33	13	4,779	4·71	225·25	250	Sr. 2	.. ..	Tooravale Goldspeck
Tooravale Milkmaid 4th ..	28736	9.10·33	15½	6,620	5·95	393·63	350	Mature	275, 372 ..	Tooravale Goldspeck
Handley, S. C., Dandenong, Jersey (1).										
Enterprize Sunbeam ..	19021	30.11.33	24	7,928	5·67	449·76	350	Mature	417, 440, 392, 421, 449	Royal Gem of Somerville
Hardie, R. T., Leitchville, Illawarra Shorthorn (3).										
Horfield Dot	C.R.	15.10.33	14½	5,634	3·55	200·25	230	Jr. 2	.. ..	Kurrawong Segrave
Horfield Virginia 5th ..	C.R.	10.10.33	10	5,024	3·97	199·21	230	Jr. 2	.. ..	Colmar of Aralabrad
*Melba 80th of Darbalara ..	16934	12.12.33	4	4,200	3·98	166·95	350	Mature	229, 225, 242	Walton of Darbalara
Harvey, T., Boisdale, Jersey (11).										
Jerseyholm Bluebell 7th ..	23202	12.11.33	11	7,709	5·04	388·69	350	Mature	310, 347, 338, 434, 415	Handsome Boy 5th of Melrose
Jersyholm Bluebell 8th ..	25393	3.12.33	18	6,345	5·55	352·37	350	Mature	297, 319, 450	Lord Island Fancy of Brucevale
Jeresyholm Bluebell 13th ..	C.R.	10.11.33	15	5,466	5·14	281·20	230	Jr. 2	.. ..	Werribee Master's Fox
Jerseyholm Bluebell 14th ..	C.R.	5.12.33	14	4,559	5.99	273.10	230	Jr. 2	.. ..	Werribee Master's Fox
Jerseyholm Empress 14th ..	25399	29.9.33	19	8,624	5·72	493·25	350	Mature	277, 495 ..	Lord Island Fancy of Brucevale
Jerseyholm Empress 17th ..	28755	12.11.33	18	7,520	5·06	380·48	330	Sr. 4	336 ..	Lord Island Fancy of Brucevale
Jerseyholm Empress 21st ..	34063	3.12.33	16	6,195	5·42	335·61	290	Sr. 3	276, 307 ..	Lord Island Fancy of Brucevale
Jerseyholm Empress 31st ..	C.R.	2.12.33	18	5,831	5·18	302·25	230	Jr. 2	.. ..	Werribee Master's Expert
Jerseyholm Kirsty 23rd ..	25401	29.9.33	18	6,459	5·99	386·85	350	Mature	277, 371 ..	Lord Island Fancy of Brucevale
Jerseyholm Lady Marge 11th	37513	12.10.33	20	7,079	5·35	378·89	270	Jr. 3	277 ..	Lord Island Fancy of Brucevale
Jerseyholm Lady Marge 12th	C.R.	8.12.33	9	3,689	6·38	235·45	230	Jr. 2	.. ..	Werribee Master Fox
Haywood, Dr. A. R., Hastings, Jersey (3).										
†Aberdour Ranee.. ..	23519	27.10.33	4	5,100	5·90	300·87	350	Mature	324, 445, 546, 543, 567	Lord 2nd of Brucevale
Chevy 13th of Melrose ..	11775	13.12.33	25	6,945	4·85	336·56	350	Mature	285, 396, 493, 419, 535, 529, 528, 475	Golden Fern's Viscount
Linga Longa Fairy Belle 2nd	36885	24.12.33	7	3,891	6·78	263·69	350	Mature	318 ..	Dawn of Warenda
Henderson, R. and Son, Macorna, Ayrshire (2).										
†Ripon Lea Beryl ..	22034	13.10.33	4	8,655	4·14	358·68	330	Sr. 4	452 ..	Lloyd of Cathcart
Ripon Lea Violet ..	24258	29.9.33	6	8,899	4·39	390·48	250	Sr. 2	336 ..	Lloyd of Cathcart
Henderson, W., Grasmere, Ayrshire (Home Farm) (13).										
Carracoorte Bellona's Image	C.R.	19.11.33	15	4,757	4·68	222·40	230	Jr. 2	.. ..	Carracoorte Pilot
Carracoorte Bellona's Picture	23544	12.10.33	9½	6,419	4·64	297·99	310	Jr. 4	209, 238 ..	Carracoorte Lochiel
Carracoorte Blanche 9th ..	C.R.	23.10.33	16	5,685	5·03	285·79	250	Sr. 2	.. ..	Carracoorte Pilot
Carracoorte Brownie's Belle	23547	27.9.33	12	7,202	5·41	389·87	310	Jr. 4	260, 355 ..	Gerty's Producer of Carracoorte
Carracoorte Brownie's Pet 2nd	24682	28.11.33	23½	7,160	4·88	349·57	310	Jr. 4	375 ..	Carracoorte Lochiel
Carracoorte Rose Petal ..	24707	9.10.33	5	4,190	4·42	185·17	270	Jr. 3	242 ..	Carracoorte Maiden's Laddie
Carracoorte Bud 7th ..	25904	22.10.33	18½	5,873	4·36	255·94	250	Sr. 2	.. ..	Blue Bell's Pride of Glencourt

* 180 days in test. † 240 days in test.

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Henderson, W., Grasmere.—*continued.*										
Carracoorte Gerty 10th ..	19694	20.11.33	18	5,861	4·72	276·44	350	Mature	298 ..	Blue Bell's Pride of Glencourt
Carracoorte Iris 22nd ..	C.R.	11.11.33	13½	5,247	4·35	228·43	230	Jr. 2	.. ..	Carracoorte Maiden's Laddie
*Carracoorte Sparkle 6th ..	15862	20.11.33	4	4,515	4·23	190·91	350	Mature	278, 248, 308, 321	Leader of Cathcart
†Carracoorte Viola 26th ..	C.R.	6.11.33	4	1,830	5·55	101·49	230	Jr. 2	.. ..	Carracoorte Pilot
Grand View Muriel 2nd ..	C.R.	24.10.33	15	4,077	4·06	165·56	230	Jr. 2	.. ..	Grand View Reginald
Sparrovale Rhoda ..	16700	28.11.33	5½	4,595	3·86	177·20	350	Mature	341, 367, 376, 391	Scottish Fame of Gowrie Park
Holbing, L. W. C., Tongala, Jersey (3).										
Eildon Actress 2nd ..	25943	9.10.33	..	6,712	5·99	401·81	350	Mature	300, 310, 381, 391	Last Choice of Belgonia
Eildon Daisy	37582	15.10.33	..	7,466	5·49	410·17	310	Jr. 4	348 ..	Ballara His Majesty
Eildon Honey Queen ..	39573	30.9.33	13½	7,946	5·79	460·23	270	Jr. 3	360 ..	Ballara His Majesty
Hore, A. J., Horefield, Illawarra Shorthorn (1).										
Alne Bank Primrose 10th ..	Vol. 4 A.I.S.H.B.	16.12.33	10	6,335	4·15	262·64	250	Sr. 2	177 ..	Spearfelt of Alne Bank
Hore, L. G., Horefield, Illawarra Shorthorn (6).										
*Horfield Bluebell ..	Vol. 4 A.I.S.H.B.	10.10.33	4	4,695	3·84	180·30	250	Sr. 2	.. ..	Seagrave of Kurr
‡Horfield Daisy 2nd ..	Vol. 4 A.I.S.H.B.	13.12.33	4	4,740	3·57	169·11	270	Jr. 3	211 ..	Colmar of Aralabrad
*Horfield Melba 3rd ..	Vol. 4 A.I.S.H.B.	30.11.33	4	5,130	4·33	222·12	230	Jr. 2	.. ..	Colmar of Aralabrad
*Horfield Vera	5034	9.10.33	4	6,675	4·15	277·32	290	Sr. 3	234, 262 ..	Colmar of Aralabrad
‡Kimo Alison ..	2788	25.12.33	4	2,955	4·81	142·05	310	Jr. 4	266, 454 ..	Doncaster of Darbalara
Rosemont Dot 3rd ..	3126	11.10.33	9½	9,207	3·51	323·14	310	Jr. 4	270, 193 ..	Rosemont Topsy's Count
Hore, M. T., Horefield, Friesian (2).										
§Greenvale Segis Patch ..	3495	16.12.33	4	11,175	3·04	340·14	350	Mature	559 ..	Lydholme Segis Paxton
St. Oran's Gem	2319	25.10.33	28½	12,018	3·53	424·47	350	Mature	332, 415, 455, 454, 556	Dominion Oakwood
Huffer, J. A., Gormandale, Jersey (7).										
Glen Valley Fancy Girl ..	28981	7.10.33	10½	4,587	6·50	298·06	350	Mature	279, 327, 357	Fancy Rose's Lad of Glen Valley
Glen Valley Quicksand 2nd	C.R.	25.10.33	12	5,681	5·46	310·17	230	Jr. 2	.. ..	Melrose Ensign
Glen Valley Rosebloom ..	25431	7.10.33	12	5,624	6·15	346·15	350	Mature	270, 324, 370, 360	Waverley's Count of Glen Valley
Glen Valley Sand Girl ..	24404	5.10.33	11	6,979	5·38	375·45	350	Mature	307, 342, 406, 421, 399	Waverley's Count of Glen Valley
Glen Valley Verbena ..	21360	6.11.33	18½	7,249	5·57	403·62	350	Mature	338, 421, 510, 530, 524, 531, 449	Jewel 3rd's Morocco's Fox
Melrose Handsome Girl 14th	25697	5.11.33	13	5,279	6·31	333·28	350	Mature	217, 381, 400, 397, 398	Sunset of Melrose
Wattle Bank Cream Belle ..	24406	26.10.33	16	7,466	5·10	380·52	350	Mature	.. ..	Cream Lad of Maylands
Hurrey, W. H., Koonwarra, Jersey (8).										
Kooreena Audrey 3rd ..	34099	17.12.33	16	5,624	5·57	313·53	310	Jr. 4	387, 452 ..	Columbine's Defiance of Linga Longa
Kooreena Audrey 4th ..	40578	29.9.33	6½	3,543	6·83	242·10	250	Sr. 2	334 ..	Columbine's Defiance of Linga Longa
Kooreena Lulu 4th ..	34102	11.10.33	7	3,876	6·78	262·70	290	Sr. 3	296 ..	Kooreena Carrie 3rd's Delegate
Kooreena Lulu 5th ..	40581	2.12.33	14	5,069	5·35	271·25	270	Jr. 3	297 ..	Kooreena Carrie 3rd's Delegate
Kooreena Lulu 6th ..	40582	15.11.33	11½	5,780	5·73	331·47	270	Jr. 3	336 ..	Kooreena Orator
Kooreena Maranta 4th ..	40583	14.10.33	N.O.C.	5,975	6·09	364·10	270	Jr. 3	311 ..	Kooreena Carrie 3rd's Deelgate
Kooreena Maranta 6th ..	40584	3.10.33	8½	4,464	5·86	261·81	230	Jr. 2	.. ..	Columbine's Defiance of Linga Longa
Kooreena Mourier Queen 5th	40591	7.11.33	9½	4,253	6·96	295·93	230	Jr. 2	.. ..	Columbine's Defiance of Linga Longa
Hutchison, H. McD., Yan Yean, Jersey (1).										
Melrose Graceful Duchess 47th	28571	27.12.33	22½	6,482	5·68	367·97	310	Jr. 4	372 ..	Melrose Clementine 2nd's Masterpiece
Hutchinson, J. and Sons, Somerville, Jersey (3).										
Mooroodue Lassie ..	21718	23.11.33	22½	7,596	4·43	336·38	350	Mature	399, 446, 393, 364	His Majesty of Somerville
Somerville Beauty 7th ..	25955	17.10.33	29	9,107	4·79	436·24	350	Mature	327, 413, 496	Repulse of Somerville
Somerville Northern Princess 3rd	C.R.	18.10.33	17½	4,976	5·18	257·59	230	Jr. 2	.. ..	Somerville Reputation

* 240 days in test. † 120 days in test. ‡ 180 days in test. § 210 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Ingram, A. B., Powelltown, Illawarra Shorthorn (7).										
Allawalla Judy 4th ..	5048	4.12.33	16	6,479	3·83	248·00	330	Sr. 4	243 ..	Premier of Fairfield
*Alne Bank Speck ..	5051	1.12.33	4	4,965	3·46	171·60	270	Jr. 3	154 ..	Alne Bank Magic
Donrobin Vivian 2nd ..	5052	21.10.33	7½	5,228	3·63	189·55	270	Jr. 3	179 ..	Premier 2nd of Kurrawong
Hill View Limelight's Dot 2nd	8179	27.10.33	12½	6,501	3·84	249·58	270	Jr. 3	216 ..	Limelight of Hill View
Hill View Pride 2nd ..	8180	3.10.33	9½	5,070	3·56	180·72	330	Sr. 4	.. ..	Limelight of Hill View
Hill View Violet 11th ..	12002	9.11.33	15½	7,217	3·67	264·62	350	Mature	377 ..	Douglas of Clivehurst
The Pines Sweet Alice ..	5055	14.11.33	8	5,293	3·60	190·71	270	Jr. 3	.. ..	Democrat of Alne Bank
Junor, G., South Morang, Illawarra Shorthorn (3).										
Allawalla Elsie 6th ..	8164	9.11.33	17	8,555	3·02	335·46	290	Sr. 3	.. ..	Premier of Fairfield
Fairfield Foch's Fairy ..	2826	25.11.33	N.o.c.	8,609	3·29	282·81	330	Sr. 4	.. ..	Fairy's Foch of Fairfield
Fairfield Foch's Mystery ..	2827	3.12.33	20	10,684	2·87	306·50	310	Jr. 4	.. ..	Fairy's Foch of Fairfield
King, H. W., Warragul, Jersey (1).										
Karoola Mavis	33440	4.10.33	17½	7,529	5·27	397·07	290	Sr 3	326, 394 ..	Glenallen Mariposa
Knowles, T., Dandenong, Ayrshire (8).										
Dandy Adeline	24776	17.10.33	21½	9,212	4·17	383·84	270	Jr. 3	357 ..	Dandy Masterpiece
Dandy Lulu	25999	29.10.33	19	6,528	3·98	260·03	230	Jr. 2	.. ..	Beleura Pensive
Dandy Lyla	26000	27.10.33	16½	5,870	3·93	230·86	230	Jr. 2	.. ..	Beleura Flashdale
Dandy Mabel	24782	29.10.33	17	7,404	4·41	326·24	270	Jr. 3	303 ..	Beleura Sarchedon
Dandy Melba	23611	8.11.33	4½	9,374	4·21	395·00	330	Sr. 4	348, 419 ..	Dandy Brilliant Boy
Dandy Primula	C.R.	1.11.33	24½	8,090	3·97	321·03	230	Jr. 2	.. ..	Beleura Flashdale
Dandy Princess Margaret ..	24785	27·11.33	29	9,280	4·15	385·21	270	Jr. 3	313 ..	Beleura Pensive
Dandy Rose Queen ..	26007	4.12.33	9	6,500	4·70	305·47	230	Jr. 2	.. ..	Beleura Pensive
Lade, A., Alexandra Jersey (2).										
*Glen Vale Pansy ..	24449	13.10.33	4	6,230	5·05	314·86	350	Mature	272, 357, 420, 306	King of St. Albans
Hythe Blossom	40274	10.10.33	6	4,488	5·22	234·44	250	Sr. 2	210 ..	Alert of Farrington
Lennie, Mrs. E., Tongala, Jersey (8).										
The Valley Dahlia II. ..	23256	30.11.33	N.o.c.	4,647	5·95	276·40	350	Mature	248, 345, 342, 384	Stargazer of The Valley
The Valley Madam ..	34162	18.12.33	8½	3,902	5·12	199·82	270	Jr. 3	210 ..	Dollar of The Valley
The Valley Merella 3rd ..	26021	3.11.33	14½	7,374	4·95	364·95	350	Mature	238, 334, 404, 362	Blackthorn of Fairview
The Valley Princess ..	37738	8.11.33	13½	7,745	5·20	402·61	290	Sr. 3	318, 351 ..	Blackthorn of Fairview
The Valley Stumpy 2nd ..	26025	22.11.33	13	6,296	4·25	267·31	350	Mature	284, 338, 360, 371	Attraction of Fairview
The Valley Stumpy 3rd ..	28827	22.11.33	11½	6,723	5·17	347·72	350	Mature	336, 422, 446	Blackthorn of Fairview
The Valley Tuber Rose ..	34168	24.10.33	11	5,773	5·18	299·24	310	Jr. 4	258, 265 ..	Blackthorn of Fairview
The Valley Wattle ..	37741	14.10.33	14½	6,627	5·54	367·22	270	Jr. 3	319, 407 ..	Blackthorn of Fairview
Le Noury, E., Werribee South, Guernsey (5).										
Melbourne Daphne 4th ..	1296	7.12.33	7	5,318	4·88	259·36	350	Mature	.. ..	David Beauty of Melbourne
Loulous Darling 2nd of the Salines (Imp.)	Vol. 9	10.10.33	14½	5,627	4·90	275·64	350	Mature	311, 242 ..	Clara's Rambler of Maple Lodge
Werribee Daffodil's Maid ..	1887	8.10.33	7½	6,986	4·41	308·28	350	Mature	258, 316 ..	Yarraview Saxon
Werribee Princess Pat ..	2639	22.12.33	14	5,139	5·71	293·64	310	Jr. 4	324 ..	Yarraview Saxon
Werribee Tulip	2640	4.10.33	4	4,050	5·18	209·85	310	Jr. 4	205, 249 ..	Yarraview Saxon
Lindsay, G., Pakenham East, Jersey (5).										
Alister Daffodil	29469	10.12.33	12½	6,011	5·22	313·73	350	Mature	139 ..	Meridale Bright Light
Unanderra Advantage ..	C.R.	1.11.33	11	3,692	5·59	206·21	230	Jr. 2	.. ..	Meridale Bright Light
Unanderra Carmen 4th ..	C.R.	9.10.33	10	4,326	4·71	203·68	230	Jr. 2	.. ..	Meridale Bright Light
Unanderra Myrtle 3rd ..	42330	5.11.33	12½	5,615	4·75	266·66	270	Jr. 3	277 ..	Meridale Bright Light
Unanderra Respond ..	42332	24.12.33	12	4,349	5·85	254·21	250	Sr. 2	239 ..	Meridale Bright Light
Longmuir, D., Tyabb, Jersey (1).										
Jerseyholm Countess ..	C.R.	9.12.33	21½	6,156	4·72	290·38	230	Jr. 2	.. ..	Goronga Farm Jester
Lyon, C. G., Heidelberg, Jersey, (11).										
Banyarra Velveteen 2nd ..	37564	30.9.33	15½	6,257	5·14	321·47	250	Sr. 2	.. ..	Concentration of Banyule
Banyule Molly 31st ..	25464	28.9.33	17	6,894	5·17	356·51	350	Mature	374 ..	Concentration of Banyule
Banyule Molly 40th ..	C.R.	24.10.33	14½	5,583	5·03	281·61	230	Jr. 2	.. ..	Banyule Lord Silvair
Banyule Silvermine 45th ..	24465	9.11.33	16	7,397	4·83	330·94	350	Mature	404, 428, 475, 493	Wotton Airman
Banyule Silvermine 74th ..	34195	23.12.33	22	6,625	4·99	330·46	270	Jr. 3	302 ..	Superstrain of Banyule
Banyule Silvermine 78th ..	37782	1.10.33	11½	5,402	5·34	288·61	230	Jr. 2	.. ..	Banyule Lord Silvair
Banyule Silvermine 79th ..	37783	13.12.33	16½	4,941	5·54	273·77	230	Jr. 2	.. ..	Banyule Aero
Banyule Tiddlewinks 3rd ..	24473	14.11.33	25	8,358	4·97	415·53	350	Mature	460, 472, 423, 514	Air Lord of Banyule
Kameruka Saucy Nell ..	40473	13.10.33	19	6,419	5·45	349·71	250	Sr. 2	.. ..	Werribee Cream's Masterpiece
Leeholme Lady	37787	14.10.33	16	5,073	5·46	276·77	230	Jr. 2	.. ..	Retford Mayflower King
Rintoul View Triplane's Pinkie	C.R.	2.11.33	18½	5,249	5·29	277·73	230	Jr. 2	.. ..	Banyule Triplane

* 240 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Lyon, W. H., Sale, Jersey (8).										
Avon Blanchette 5th ..	34199	21.10.33	17½	7,014	5·29	371·09	350	Mature	.. ..	Jessie 13th's Count of Melrose
Avon Blanchette 16th ..	C.R.	6.10.33	10	3,722	5·03	187·22	230	Jr. 2	.. ..	Jessie 13th's Count of Melrose
Avon Handsome Girl ..	18498	28.10.33	16	6,132	5·44	333·74	350	Mature	.. ..	Golden Fern's Viscount
Avon Handsome Girl 3rd ..	38733	20.10.33	16½	6,890	5·69	391·82	350	Mature	.. ..	Jessie 13th's Count of Melrose
Avon Lassie Fowler 5th ..	C.R.	22.10.33	7	5,001	5·60	280·08	350	Mature	.. ..	Jessie 13th's Count of Melrose
Avon Little Nell 3rd ..	33458	9.10.33	14	6,562	5·82	381·80	350	Mature	.. ..	Jessie 13th's Count of Melrose
Olivedale Buttercup ..	37381	5.11.33	14	6,065	5·74	348·13	310	Jr. 4	395, 363 ..	Studleigh Dandy
Studleigh Duchess 3rd ..	25289	28.9.33	14½	7,262	5·43	394·20	350	Mature	314, 434, 445, 449, 382	Lord 5th of Brucevale
Macauley, C. W., Rochester, Jersey (3).										
Taranah Chime	C.R.	21.12.33	17	5,252	5·77	302·78	230	Jr. 2	.. ..	Duke of Invermay
Taranah Flora	42117	27.9.33	11½	5,921	6·17	365·53	230	Jr. 2	.. ..	Duke of Invermay
Taranah Rainbow ..	42118	27.10.33	12½	7,487	5·78	433·11	250	Sr. 2	343 ..	Duke of Invermay
McCosh, S. J., Wandin, Jersey (1).										
Goronga Farm Daffoplane	38034	2.12.33	18½	5,502	5·26	289·16	310	Jr. 4	240, 192 ..	Banyule Triplane
McDougall, J., Byaduk, Jersey (3).										
Park View Charm 3rd ..	41512	27.9.33	15½	4,859	4·82	234·08	230	Jr. 2	.. ..	Grangelea Royal
Park View Daphne ..	29047	7.11.33	10½	5,117	4·50	230·29	330	Sr. 4	234, 305 ..	Prince of Park View
Park View Shirley 2nd ..	41520	27.9.33	11½	4,338	5·29	229·50	230	Jr. 2	.. ..	Grangelea Royal
McErvale, I. and Sons, Camperdown, Jersey (1).										
Cumnock Narcissus ..	Vol. 22	2.10.33	..	7,632	5·24	399·78	310	Jr. 4	283 ..	Cumnock Fancy's Masterpiece
McInnes, A. A., Gunobwer, Dairy Shorthorn (1).										
Loch Ness Roan Moss ..	D.S.H.B.A.	17.10.33	17	7,521	3·98	299·00	270	Jr. 3	320 ..	Brayland's Matilda Duke
McNabb, G. A. and Son, Irrewillipe East, Jersey (3).										
Chief's Marie of Boorene ..	21104	31.10.33	23	8,133	4·61	374·56	350	Mature	452, 402, 477, 434, 449	Chloe's Mercedes Chief of Glen Iris
Maxon Favourite ..	34218	1.11.33	23	7,487	4·66	348·97	290	Sr. 3	282, 340 ..	Burnside Handel
Maxon Noble's Marie ..	37855	27.9.33	18½	4,653	4·75	221·00	230	Jr. 2	.. ..	Avalon Noble 8th
Maher, R., Tongala, Jersey (7).										
Rosemont Daisy 4th ..	26063	26.11.33	5	5,690	5·59	317·79	350	Mature	356, 406, 442, 488, 430	Rosella 2nd's Noble of Rosemont
Rosemont Jenny Lind 7th	37875	1.10.33	8	6,747	5·83	393·68	350	Mature	340, 338 ..	Rosella 2nd's Noble of Rosemont
Rosemont Jessie 7th ..	41863	2.10.33	5	4,743	5·02	237·90	270	Jr. 3	238 ..	Rosella 2nd's Noble of Rosemont
Rosemont Lady Fowler 5th	37876	19.10.33	5½	5,237	5·71	299·15	310	Jr. 4	319, 317 ..	Rosella 2nd's Noble of Rosemont
Rosemont Primrose 3rd ..	37879	21.11.33	4	3,223	4·97	160·23	310	Jr. 4	339, 191 ..	Lassie's Duke of Eurangee
Rosemont Silvermine ..	37880	16.10.33	4	4,574	5·90	269·81	310	Jr. 4	258, 260 ..	Rosella 2nd's Noble of Rosemont
Silvermine 39th of Banyule	18818	17.10.33	9	7,544	4·79	361·27	350	Mature	429, 380, 444, 372	Noble Airman of Banyule
Maller, Dr. R., Shepparton, Jersey (4).										
*Gem 2nd of Coolwoola ..	19970	14.12.33	..	7,515	5·27	395·88	350	Mature	360, 398, 373, 535, 565	Mercedes Golden Prince of Glen Iris
†Maneroo Eve	40875	25.10.33	..	8,550	4·58	391·82	270	Jr. 3	457 ..	Wompini Royal Duke
Maneroo Hope	C.R.	2.10.33	11	5,571	5·10	283·93	230	Jr. 2	.. ..	Wompini Royal Duke
Maneroo Marge's Marguerite	33496	29.9.33	17	7,856	5·77	453·27	350	Mature	267, 381, 428	Uranus of Aveley
Maloney, P. J., Tongala, Jersey (1).										
Gem's Noella (Imp.) ..	33497	14.10.33	20½	13,487	4·24	572·33	350	Mature	576, 629 ..	Hemlet's You'll Do
Marshall, M., Sale, Jersey (1).										
Bella of Latrobe	16655	7.10.33	16	7,269	4·93	358·44	350	Mature	315, 293, 357, 357, 372, 422	Duke of Banyule
Meaklim Bros., Mooroopna, Dairy Shorthorn (2).										
Drumneil Duchess 3rd ..	D.S.H.B.A.	18.10.33	22	10,080	3·71	374·07	330	Sr. 4	.. ..	Bounty of Darbalara
Drumneil Fairy	D.S.H.B.A.	12.11.33	18½	9,726	4·21	409·91	350	Mature	.. ..	Bounty of Darbalara

* 210 days in test. Herd withdrawn. † 240 days in test. Herd withdrawn.

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Meir, A., Kilmore, Jersey (11).										
Fairview Bonnie Lass	34243	7.10.33	11	6,231	5·15	320·64	310	Jr. 4	..	Burnside Royalist
Fairview Boronia 2nd	37914	3.11.33	10	5,189	5·53	283·23	270	Jr. 3	..	Burnside Royalist
Fairview Carmen 3rd	37915	30.11.33	8	4,747	5·19	246·43	270	Jr. 3	..	Burnside Royalist
Fairview Carmen 4th	37916	7.11.33	11½	4,896	5·01	245·27	270	Jr. 3	..	Burnside Royalist
*Fairview Carmen 6th	39723	6.10.33	4	4,215	4·95	208·77	230	Jr. 2	..	Fairview Royal
Fairview Gipsy 6th	39725	2.11.33	8	3,816	4·62	176·29	230	Jr. 2	..	Fairview Cream Chief
Fairview Gipsy Queen	24496	27.10.33	11	8,171	4·43	332·22	350	Mature	..	Hawthorn Audrey's Twylish of Banyule
Fairview Primrose	24498	9.11.33	10	7,334	4·11	301·67	350	Mature	..	Hawthorn Audrey's Twylish of Banyule
Fairview Primrose 2nd	34255	2.11.33	9½	5,465	5·16	282·26	290	Sr. 3	..	Burnside Royalist
Fairview Primrose 4th	39729	30.11.33	11½	3,435	4·49	154·29	230	Jr. 2	..	Fairview Cream Chief
Fairview Sparklet	24499	26.11.33	6	7,101	5·25	372·92	350	Mature	..	Frond of Banyule
Mesley, T. (Estate of the late), Dalyston, Jersey (4).										
Warenda Garenne 11th	33518	3.10.33	17½	7,611	5·66	430·63	350	Mature	434, 482, 384	Warenda Snap
Warenda Garenne 12th	42426	23.10.33	17	7,643	5·03	388·71	270	Jr. 3	284 ..	Belgonia Air King
Warenda Mandoline 6th	37922	14.10.33	19½	8,070	5·03	403·70	310	Jr. 4	306, 398 ..	Belgonia Air King
Warenda Ragtime 7th	42430	23.10.33	20	7,712	5·17	398·50	250	Sr. 2	377 ..	Belgonia Air King
Middleton, E. M., Hamilton, Jersey (6).										
†Dalray Lotus Lass	C.R.	21.10.33	4	2,030	6·13	128·05	230	Jr. 2	.. ..	King's Vale Brunnette 3rd's Lad
Jubilee Arum	23388	8.12.33	15	5,291	5·80	307·05	350	Mature	367 ..	Lily's Lad of Holmwood
Jubilee Linaria	C.R.	23.12.33	12½	4,186	5·60	234·51	290	Sr. 3	.. ..	Jubilee Wheatenlight
Jubilee Lotus	13770	10.12.33	16½	5,715	5·35	305·94	350	Mature	334 ..	Jubilee Flashlight
Jubilee Romneya	40435	12.12.33	15½	4,530	5·90	267·33	270	Jr. 3	256 ..	Jubilee Wheatenlight
Jubilee Rosebud 2nd	33667	5 12.33	18	6,015	5·28	317·45	350	Mature	355 ..	Jubilee Whatlight
Miller, F. W., Sebastopol, Jersey (1).										
Blackwood Grove Miss Leach	37935	11.11.33	21	7,575	5·12	388·10	310	Jr. 4	405 ..	Burnside Concord
Mitchell, R. H., Linton, Jersey (2).										
Brucevale King Lark's Satisfaction	37947	8.10.33	15	5,877	6·62	388·89	250	Sr. 2	336 ..	Werribee Wyandotte's King
Clifford Farm Gladsome	C.R.	4.10.33	20	6,120	6·71	410·66	230	Jr. 2	.. ..	Clifford Farm Eliminator
Moody, C. J., Koo-wee-rup, Jersey (1).										
Glady's Park Bluebell's Beauty	Vol. 21	11.10.33	8½	4,013	5·08	203·80	270	Jr. 3	.. ..	Werribee Bluebell's Masterpiece
Moore, J. and Co., Yarram, Jersey (9).										
Antimony's Trixie of Belle Vue	15569	24.10.33	15	9,383	5·03	471·59	350	Mature	479, 460, 463, 415	Columbine Antimony
Springhurst Heather 2nd	16967	24.10.33	29	7,473	4·81	359·72	350	Mature	289, 343, 349, 339	Alloy of Banyule
Tooloonook Boltonia 5th	Vol. 21	17.10.33	14½	5,849	5·40	316·11	270	Jr. 3	.. ..	Tooloonook Clianthus Hero
Tooloonook Molly	33544	30.10.33	N.O.C.	6,424	4·65	298·94	350	Mature	298, 419 ..	Beauty 4th's Command of Somerville
Tooloonook Molly 3rd	42247	7.10.33	13	7,920	4·64	367·73	270	Jr. 3	268 ..	Heroic of Somerville
Tooloonook Peach 5th	Vol. 21	7.10.33	11	4,911	4·23	207·68	230	Jr. 2	.. ..	Tooloonook Plumbago's Hero
Tooloonook Plumbago 3rd	42248	1.12.33	15	6,384	5·50	350·85	350	Mature	310, 364, 210	Beauty 4th's Command of Somerville
Tooloonook Sainfoin	33546	9.12.33	16½	6,644	5·37	356·83	350	Mature	296, 241 ..	Dauntless of Somerville
Tooloonook Virginia 2nd	Vol. 21	22.11.33	8½	4,459	5·17	230·38	250	Sr. 2	178 ..	Tooloonook Carol's Hero
Muhlebach Bros., Batesford, Ayrshire (4).										
Retreat Eileen	C.R.	25.11.33	10	4,319	4·29	185·19	230	Jr. 2	.. ..	Wattle Park Bonnie Doon
Retreat Isla	24247	12.11.33	16½	7,641	3·87	295·79	310	Jr. 4	208, 278 ..	Retreat Radiator
‡Retreat Madamoiselle	20670	19.12.33	4	8,385	3·97	332·51	350	Mature	287, 280 ..	The Valley Patrus
Retreat Pet	24250	11.12.33	9½	5,979	4·20	251·28	270	Jr. 3	241 ..	Wattle Park Bonnie Doon
Murray, H. C., Murrabit West, Jersey (2).										
Colber Stephanie	39302	2.11.33	16	5,502	4·42	243·01	230	Jr. 2	.. ..	Baroona Prince
Moorunduden Dorothy	26106	22.12.33	7	4,533	4·90	222·13	350	Mature	296 ..	Sweet Fox of The Valley
Nancarrow Bros., Kerang, Jersey (4).										
Aveley Norma	22953	26.11.33	21½	8,103	5·14	416·69	350	Mature	295, 418, 422	Werribee Fancy's Butter King
Bellaire Starette 5th	38835	30.10.33	21	8,649	5·20	450·09	350	Mature	437 ..	Bellaire Noble 2nd
Strathview Daphne	C.R.	21.10.33	N.O.C.	4,622	4·83	223·39	230	Jr. 2	.. ..	Bonnoy Carrie's Nobleman
Strathview Wattle	37674	5.11.33	19	6,649	5·01	333·32	330	Sr. 4	.. ..	Pat of Belgonia
Neave, E. B., Callignee, Jersey (2).										
Eastvale Vanity 2nd	C.R.	10.10.33	21½	7,090	5·07	359·15	230	Jr. 2	.. ..	Melview Vanilla's Starbright Lad
Latrobe Lily 5th	25416	25.10.33	21	8,818	5·23	461·22	350	Mature	510, 475 ..	Superstrain of Banyule
Nicholas, A. M., Sherbrooke, Jersey (1).										
Jubilee Rowan	38128	14.11.33	16½	7,670	5·28	405·04	290	Sr. 3	308 ..	Jubilee Whatlight

* 240 days in test. † 150 days in test. ‡ 262 days in test.

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Nicholas, A. M., Shoreham, Jersey (2).										
Lotus of Comely Banks ..	21616	20.10.33	18	9,281	4·69	435·09	350	Mature	358, 400 ..	Goddington Winks (Imp.)
Retford Maranta's Queen ..	32006	12.10.33	11	5,456	6·71	366·04	290	Sr. 3	.. ..	Retford Jersey King
Noble, T., and Son, Maffra, Jersey (3).										
Finchley Canary 2nd ..	37991	12.10.33	18	9,404	5·88	553·15	350	Mature	346, 616 ..	Dawn of Warenda
Finchley Handsome Lady 2nd	C.R.	17.10.33	12	4,346	6·36	276·29	230	Jr. 2	.. ..	Finchley Lord Harmony
Linga Longa Fairy's Handsome Girl	28875	4.12.33	17½	7,254	6·66	482·77	350	Mature	336, 446, 389, 587, 668	Jessie's Handsome Boy
Nolti, E. H., Merino, Jersey (2).										
Nairana Fairy 10th ..	C.R.	2.12.33	11	3,720	5·06	188·06	230	Jr. 2	.. ..	Burnside Audacious
Nairana Virginia 6th ..	29272	28.10.33	11	6,360	5·69	362·16	310	Jr. 4	417, 391 ..	Strathbow Gold Star
Norman, J. G., Pennyroyal, Jersey (1).										
Clarendon Eyre Lilac Domino 2nd	39253	7.10.33	20	7,940	5·91	468·92	270	Jr. 3	449 ..	Clarendon Eyre Happy Husband
Overend, Mrs. A., Sale, Jersey (2).										
*Bon Accord Bell 2nd ..	38948	11.11.33	4	4,680	5·10	238·80	250	Sr. 2	173 ..	Bon Accord John
Bon Accord Brilliant Ray ..	C.R.	8.11.33	10	3,404	5·02	171·01	230	Jr. 2	.. ..	Bon Accord John
Pattison, F., Tongala, Ayrshire (3).										
Willow Park May ..	16927	2.10.33	12	9,132	3·54	322·88	350	Mature	305, 277, 352	Tonga Park James
Willow Park Nell.. ..	22242	30.9.33	5½	6,293	4·13	259·88	350	Mature	280, 260, 250	Clansman of Glenholme
Willow Park Rosie ..	23344	26.11.33	15½	8,408	3·66	307·88	270	Jr. 3	248 ..	Willow Park Prince
Pearson, J., Nerrena East, Jersey (2).										
†Dumfries First Choice ..	Vol. 21	2.11.33	4	4,628	5·01	231·69	330	Sr. 4	.. ..	Dumfries Minnie's Eminent Boy
Warrawee Iris	26346	23.10.33	20	7,695	4·78	367·87	350	Mature	314, 383, 402, 415	Canary's V.C. of King's Vale
Pollard, C. F., Wodonga, Jersey (1).										
Bonegilla Daisy	38051	10.11.33	8	4,890	5·66	276·72	290	Sr. 3	.. ..	Dahlia's Starbright Prince of Roselands
Poyner, R., Lilydale, Jersey (4).										
Laane Lovely	33629	9.12.33	12½	6,709	5·01	336·21	350	Mature	306 ..	Laane Lord Chief
Lilydale Harmony ..	Vol. 21	24.11.33	10½	5,032	5·99	301·23	270	Jr. 3	249 ..	Lilydale Dauntless
Lilydale Songstress ..	33630	17.12.33	22	6,762	4·80	324·81	350	Mature	254, 280, 393	Staghorn Promise's Masterpiece
Wompini Chloe 6th ..	34288	4.11.33	19	8,418	5·11	430·35	310	Jr. 4	358, 420 ..	Werribee Masterman
Prout, A., Leongatha, Jersey (2).										
Pineleigh Golden Gem ..	C.R.	28.10.33	13½	5,288	5·30	280·31	230	Jr. 2	.. ..	Wattle Vale Aladdin
Pineleigh Golden Lass ..	33635	29.9.33	11	5,937	5·83	346·05	330	Sr. 4	304, 305, 384	Wattle Vale Aladdin
Pullar, P. G., Tatura, Friesian (2).										
Goulburn Lady Posch ..	4038	30.11.33	24	8,412	3·53	296·88	230	Jr. 2	.. ..	Goulburn Sylvia Beets
Goulburn Topsy Burkeyje ..	C.R.	6.11.33	19	6,440	4·04	259·89	230	Jr. 2	.. ..	Burnbank Sylvia Burkeyje
Quigley and Bennett, Yinnar, Jersey (2).										
Ellendale Kirsty 3rd ..	33639	14.10.33	22	8,852	4·63	410·27	350	Mature	330, 440, 392, 506	Mistletoe 2nd's Treasure of Lyniulg
Jerseyinn Vanilla 3rd ..	23488	14.10.33	21	8,582	5·43	465·74	350	Mature	454 ..	Venture's Hero
Raggatt, F., Tongala, Jersey (3).										
Strathbow Goldie 5th ..	26155	6.10.33	15	7,560	6·58	497·70	350	Mature	415, 458, 549	Studleigh Noble
Strathbow Heather Belle 2nd	34294	9.10.33	21½	9,466	4·58	433·10	310	Jr. 4	375, 401 ..	Banyule Fuselage
Tavistock Audrey's Lassie	37146	30.10.33	14½	7,019	4·20	294·80	310	Jr. 4	300, 303 ..	Audrey's Prince of Banyule
Raleigh, H. E. (Miss), Pakenham Upper, Jersey (7).										
Banyarra Pearl	C.R.	20.10.33	13½	5,934	4·86	288·31	230	Jr. 2	.. ..	Banyarra Mussolini
Bellifaire Postmaster's Bijounette	C.R.	4.10.33	10½	4,926	6·61	325·73	250	Sr. 2	.. ..	Napoleonette's Postmaster of Rosel (Imp.)
Burnside Rosemary ..	23385	6.10.33	11½	7,055	6·04	426·46	350	Mature	368, 358, 367, 399, 416, 410	Retford Lord Twylish
Goronga Farm Daffodil Quinta	26158	24.10.33	7	7,371	5·03	370·82	350	Mature	323, 306, 408, 385	Zoe's Golden Viscount
†Goronga Farm Mary Rose	38096	3.11.33	4	3,815	5·74	218·81	310	Jr. 4	322, 236 ..	Banyule Triplane
Hazeldale Lady	40176	2.10.33	7	5,257	6·47	340·13	270	Jr. 3	320 ..	Dinkum of Banyule
Mornmoot Model ..	33137	10.10.33	14	6,862	6·57	450·91	310	Jr. 4	394, 441 ..	Choirmaster of Banyule
Rechenberg, J. F., Marshall, Ayrshire (8).										
Camelot Bracelet ..	22577	13.10.33	21½	10,463	4·21	440·19	350	Mature	389 ..	Hotstuff of Sparrovale
Camelot Diamond Bangle ..	C.R.	3.11.33	15½	5,888	4·00	235·54	230	Jr. 2	.. ..	Gala Nugget
Camelot Mamie	24665	22.10.33	19½	8,138	4·01	326·66	270	Jr. 3	324 ..	Scotswood Adonis Earl
Camelot Pearl Bangle ..	C.R.	1.10.33	16½	4,436	4·51	199·96	230	Jr. 2	.. ..	Gala Nugget
Sparrovale Banksia ..	16639	5.10.33	8	7,640	3·96	302·84	350	Mature	285 ..	Hotstuff of Sparrovale
Sparrovale Bonnie ..	16642	18.10.33	19½	8,745	3·83	334·52	350	Mature	239 ..	Sparrovale His Luck
Sparrovale Mona	16683	22.11.33	20½	9,071	4·15	376·56	350	Mature	380 ..	Scottish Fame of Gowrie Park
Sparrovale Robur ..	16702	14.10.33	20½	9,405	5·07	476·45	350	Mature	397 ..	Hotstuff of Sparrovale

* 240 days in test. † 210 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Richardson, W. S., Bacchus Marsh, Jersey (9).										
Sutton Lea Airenne ..	38133	7.10.33	13	4,794	6·13	294·06	250	Sr. 2	293 ..	Banyule Petalon 2nd
Sutton Lea Aria	C.R.	7.10.33	14	5,817	6·02	349·90	230	Jr. 2	.. ..	Banyule Petalon 2nd
Sutton Lea Airflier ..	38134	4.10.33	18	6,879	6·58	452·90	290	Sr. 3	342 ..	Banyule Petalon 2nd
Sutton Lea Armain ..	Vol. 21	10.11.33	9	4,293	6·05	259·92	230	Jr. 2	.. ..	Banyule Petalon 2nd
Sutton Lea Jacqueline ..	38136	10.10.33	18	7,083	5·03	356·26	290	Sr. 3	267, 322 ..	Banyule Petalon 2nd
Sutton Lea Petal ..	Vol. 21	7.11.33	11	4,146	6·29	260·93	230	Jr. 2	.. ..	Banyule Petalon 2nd
Sutton Lea Tricia ..	C.R.	30.11.33	13½	4,449	4·85	215·60	230	Jr. 2	.. ..	Banyule Petalon 2nd
Sutton Lea Ueline ..	C.R.	30.11.33	10½	4,170	6·45	268·80	230	Jr. 2	.. ..	Sutton Lea Charnap
Sutton Lea Vanity ..	C.R.	1.12.33	10	3,633	6·34	230·51	230	Jr. 2	.. ..	Banyule Petalon 2nd
Robinson, S. L., Miss, East Kew, Jersey (9).										
Bonne Chance (Imp.) ..	13867	20.11.33	..	3,245	5·00	162·17	350	Mature	460, 392, 346, 247	Observer (P.S.C. J.H.B.)
Kyora Bonne Chance ..	26440	30.9 33	9	4,422	5·22	230·66	350	Mature	237, 248, 303	Speedwell's Volunteer
Kyora Bonne Chance 2nd ..	34300	2.12.33	..	2,717	4·73	128·59	310	Jr. 4	194, 190 ..	Foch of Jerrara
Kyora Dora 3rd	C.R.	25.11.33	..	4,196	5·47	229·35	230	Jr. 2	.. ..	Kyora Dream's Volunteer
Kyora Merry Mike's Mayflower	26441	4.11 33	8	3,894	4·94	192·55	350	Mature	314, 346, 269, 222	Foch of Jerrara
Kyora Reprieved ..	29372	2.12.33	..	5,741	4·98	286·07	350	Mature	299, 227 ..	Foch of Jerrara
Kyora Sultan's Adore 2nd ..	23408	9.11.33	15½	5,832	4·81	280·60	350	Mature	364, 529, 482, 423	Foch of Jerrara
Woodside Bettwsy-y-Coed	19214	27.10.33	15½	5,925	4·96	294·13	350	Mature	314, 306, 327, 266, 308	Pedro (P.S., H.C.)
Woodside Reprieved 2nd ..	26444	19.10.33	9	5,772	4·73	272·96	350	Mature	107, 290, 355, 237	Speedwell's Volunteer
Rodda, W. G., Warracknabeal, Jersey (1).										
Fairview Lady May ..	29142	6.10.33	11½	5,172	5·31	274·46	330	Sr. 4	.. ..	Burnside Royalist
Ronalds, O., Tarago, Jersey (2).										
Somerville Heroine 3rd ..	28777	5.12.33	30	10,070,	5·26	529·84	350	Mature	.. ..	Banyule Aeronaut
Somerville Valencia 2nd ..	28786	20.10.33	28	12,331	5·89	726·12	330	Sr. 4	481 ..	Somerville Reputation
Ryan, D. M. and Sons, Pirron Yallock, Illawarra Shorthorn (2).										
Basin Banks Mavis 2nd ..	C.R.	7.10.33	12½	4,502	3·99	179·64	230	Jr. 2	.. ..	Redmond of Glenburn
Numbawarra Maisie ..	5092	27.9.33	9	8,720	4·01	349·86	350	Mature	330, 375 ..	Alma's Jellicoe of Hillcrest
Salesian College, Sunbury, Ayrshire (3).										
Rupertswood Lady Mac ..	20710	8.10.33	16	7,260	3·87	280·99	350	Mature	261, 216, 286, 261	Bonnie Scot of Gowrie Park
Rupertswood Patience ..	22058	7.10.33	20	8,294	3·81	315·92	350	Mature	201, 328, 376, 286	Ascot of Elmsdale
Rupertswood Rosella ..	22060	19.12.33	20	7,401	4·16	307·91	330	Sr. 4	320, 235 ..	Lancer of Rupertswood
Salesian College, Sunbury, Friesian (1).										
Burnbank Canona ..	C.R.	16.10.33	32	8,067	3·44	277·58	230	Jr. 2	.. ..	Burnbank Majoe
Schier, A. H. S., Kernot, Ayrshire (6).										
*Glen Afton Gertrude ..	22766	21.11.33	4	3,435	4·25	146·13	310	Jr. 4	.. ..	Donald Scot of Gleneira
*Scotswood Better Still ..	15470	21.11.33	4	3,750	3·47	130·08	350	Mature	178, 159, 222, 182, 203	Scotswood Aristocrat
Scotswood Joyce	C.R.	21.12.33	11½	3,498	4·35	152·33	230	Jr. 2	.. ..	Summerhill Digger
Scotswood Maple ..	22076	19.12.33	14½	3,960	4·82	191·03	350	Mature	187 ..	Scotswood Fusilier
†Scotswood Millicent ..	C.R.	24.11.33	4	4,005	3·84	153·78	230	Jr. 2	.. ..	Scotswood Combine
Scotswood Modesty 3rd ..	22078	12.10.33	N.o.c.	6,200	5·87	363·65	330	Sr. 4	282 ..	Scotswood Fusilier
Schlipalius, A., Kilmany, Jersey (3).										
De Lecq, Josephine ..	33731	22.12.33	15	5,124	5·14	263·28	310	Jr. 4	269, 312 ..	Werribee Starbright Northwood
Fairbank Bloom	33734	28.9.33	12	5,391	5·83	314·36	310	Jr. 4	273, 320 ..	Royal Reserve of Somerville
Fairbank Blossom ..	C.R.	13.12.33	12½	4,427	4·95	219·09	230	Jr. 2	.. ..	Wompini Beau Brummel
Scott, F. E. S., Scotsburn, Dairy Shorthorn (4).										
Willow Park Bloom 2nd ..	Vol. 1 V.M.S.H.B.	19.10.33	13	8,939	3·77	336·77	290	Sr. 3	281, 338 ..	Willow Park Reflector
Willow Park Chance 2nd ..	Vol. 1 V.M.S.H.B.	20.10.33	9½	7,994	4·22	337·33	350	Mature	286, 456 ..	Havelock of Darbalara
Willow Park Duchess 14th	Vol. 1 V.M.S.H.B.	31.10.33	..	10,431	3·70	386·31	310	Jr. 4	314, 426 ..	Willow Park Reflector
Willow Park Princess 7th ..	Vol. 1 V.M.S.H.B.	14.10.33	21½	12,869	4·04	519·87	350	Mature	381, 479 ..	Willow Park Imperial
Shearman, A. and W., Darnum, Jersey (1).										
Oak Park Princess 2nd ..	C.R.	1.12.33	10	6,524	5·60	365·34	230	Jr. 2	.. ..	Brucevale Fancy Attraction
Simpson, T. E. and Sons, Lower Ferntree Gully, Jersey (9).										
Kantara Ditny's Larkspur	29378	25.10.33	14½	8,143	5·89	479·41	350	Mature	323, 407, 426	Ku Ku Fashion Plate
Kantara Silvermine ..	C.R.	15.11.33	18½	5,600	4·57	255·78	230	Jr. 2	.. ..	Ku Ku Fashion Plate
Wompini Early Belle ..	C.R.	29.11.33	14½	4,041	5·19	209·71	230	Jr. 2	.. ..	Wompini Master's Chief
Wompini Fashion Duchess ..	C.R.	3.11.33	10	4,308	5·18	223·02	230	Jr. 2	.. ..	Ku Ku Fashion Plate
Wompini Joybell ..	25610	25.10.33	14½	6,640	5·63	374·02	350	Mature	265, 421, 423	Wompini Masterman
Wompini Little Flirt ..	C.R.	20.11.33	10	3,701	5·19	192·18	230	Jr. 2	.. ..	Wompini Master Chief
Wompini Rosalie 2nd ..	28265	23.11.33	15½	6,486	5·68	368·49	310	Jr. 4	332, 412 ..	Brucevale Bright Star
Wompini Southern Fascination	C.R.	13.12.33	14½	4,628	5·35	247·52	230	Jr. 2	.. ..	Staghorn Butter's Masterpiece
Wompini Skylark ..	Vol. 21	12.11.33	13	5,105	5·97	304·60	250	Sr. 2	.. ..	Wompini Master Leon

* 210 days in test. † 240 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Smethurst, J. R., Thorpdale, Jersey (2).										
Aveley Sundae	23443	19.11.33	..	6,519	5·30	345·32	350	Mature	298, 337, 396, 386, 381	Choirmaster of Banyule
Braytor Bluebell	33757	12.11.33	..	6,095	5·36	326·94	310	Jr. 4	264, 368 ..	Pansy's Chief of Leathorne
Smith Bros., Mirboo North, Jersey (2).										
Sylvan Hill Empress ..	33761	6.10.33	24½	9,314	5·47	509·81	350	Mature	574 ..	Handsome Boy 3rd of Jerseyholm
Sylvan Hill Lady Alma ..	38282	13.10.33	10½	6,438	5·66	364·37	310	Jr. 4	363 ..	Somerville Heir Apparent
Smith, Emery G., Camperdown, Jersey (6).										
Belle Vue Mystery 2nd ..	38852	31.10.33	9	3,582	5·44	195·00	230	Jr. 2	.. ..	Goldfinder (Imp.)
Blackwood Grove Myra ..	38927	18.10.33	8½	3,398	5·99	203·58	230	Jr. 2	.. ..	Hoik of Banyule
Jerseyholm Bluebell 12th ..	40370	13.12.33	..	2,966	5·82	172·55	230	Jr. 2	.. ..	Lord Island Fancy of Bruce Vale
Kameruka Symbol ..	40477	1.12.33	..	4,457	6·31	281·36	250	Sr. 2	.. ..	Banyule Amplifier
Kirkhill Junette	40559	26.10.33	8	3,684	5·73	211·19	230	Jr. 2	.. ..	Kingsvale Brunette 16th's Boy
Pendennis Lassie 3rd ..	41560	24.10.33	4	2,595	6·11	158·49	230	Jr. 2	.. ..	Rosemont Golden Flower 2nd
Smith, E. L. and Sons, Woodend, Friesian (2).										
Holmleigh Oporinus ..	4080	21.11.33	12	6,884	3·23	222·61	290	Sr. 3	218 ..	Holmleigh Oakfield
Roads End Cormasa ..	3706	21.10.33	27	12,533	2·61	326·72	310	Jr. 4	395, 329 ..	Rosevale Korndyke Sylvia Posch
Smith, G. and W., Fish Creek, Jersey (5).										
Elanora Bonnie Girl ..	38288	30.9.33	15½	7,653	5·62	430·36	310	Jr. 4	307, 417 ..	Burnside Harmony
Rydon Bright Eyes ..	29488	31.10.33	17½	8,264	5·10	421·54	350	Mature	334, 472 ..	Burnside Monitor
Rydon Daphne	26365	24.10.33	12½	6,218	6·06	377·03	350	Mature	.. ..	Burnside Monitor
Rydon Lady Patsy ..	29489	10.10.33	7	7,106	4·93	350·44	350	Mature	299, 348, 354	Burnside Monitor
Rydon Rosalind	29491	28.11.33	13	5,959	5·72	340·98	350	Mature	335, 325, 329	Burnside Monitor
Smith, R. W. and Son, Murraydale, Friesian (1).										
Ingolston Opal	4103 Vol. 12	14.11.33	17½	8,967	3·05	273·27,	270	Jr. 3	.. ..	Greenvale Ideal Segis
Stephens, Dr. F. G., Vermont, Jersey (1).										
Aveley Trinket 2nd ..	22956	7.10.33	4	4,958	4·51	223·77	350	Mature	282, 164, 328, 378, 405	Marc Antony
Stoney, W. B., Drouin West, Jersey (2).										
Tarago Foxglove	C.R.	1.12.33	10	4,682	5·26	246·31	230	Jr. 2	.. ..	Handsome Boy 12th of Jerseyholm
Tarago Gem	42113	28.9.33	6	3,335	6·05	201·84	270	Jr. 3	177 ..	Wompini Metalmaster
Sutton, H. and Son, Callignee, Jersey (1).										
Latrobe Connie	24396	31.10.33	15	8,096	4·73	382·74	350	Mature	330, 381, 299	Concentration of Banyule
Thomas and Taylor, Hamilton, Ayrshire (5).										
Carracoorte Betsy 24th ..	24675	4.10.33	7½	7,070	3·88	274·61	250	Sr. 2	.. ..	Blue Belle's Pride of Glencourt
*Carracoorte Brownill's Beauty	24683	28.9.33	4	5,625	4·84	272·01	250	Sr. 2	.. ..	Carracoorte Malden's Laddie
*Carracoorte Bunty 16th ..	24684	5.10.33	4	5,880	5·01	294·84	250	Sr. 2	.. ..	Carracoorte Pilot
Carracoorte Fennella 15th ..	24688	15.10.33	10½	5,885	4·65	273·39	310	Jr. 4	.. ..	Gerty's Producer of Carracoorte
Carracoorte Minnie 7th ..	24706	6.12.33	5½	6,605	4·98	329·04	270	Jr. 3	.. ..	Carracoorte Lochiel
Tomasetti, B. G., Drouin West, Ayrshire (4).										
Glencorren Viola	21508	7.10.33	25	9,747	4·68	455·99	310	Jr. 4	281, 390 ..	Scotswood Michael 2nd
Leithvale Leila	20468	4.11.33	15	8,559	4·36	372·86	350	Mature	315, 340, 356	Gleneira Grantham
†Leithvale Marjorie ..	20469	4.11.33	..	7,470	4·06	303·24	350	Mature	296, 339, 367	Algie of Oakbank
Leithvale Phyllis ..	23086	4.10.33	22	7,935	4·63	367·68	310	Jr. 4	234, 359 ..	Gleneira Grantham
Tuckey, J. F., Alberton, Ayrshire (2).										
Tregorland Keswick ..	19079	1.10.33	N.o.c.	9,632	3·73	359·45	350	Mature	279, 310, 341, 333, 373	Gowrie Park Scotchman
Tregorland Tulip ..	C.R.	8.10.33	16	5,607	4·23	237·43	230	Jr. 2	.. ..	Gowrie Park Royal Scot
Vagg, E. J., Leongatha, Jersey (2).										
*Bonnay's Silver Maid ..	26264	29.11.33	4	5,070	5·08	257·64	350	Mature	313, 428 ..	Mona's Duke of Woorayl
Queen's Vale Lady ..	19963	23.12.33	16	6,108	5·20	317·42	350	Mature	431, 451, 452, 488, 462, 352	Daphne's Peer of Queen's Vale
Van Brummelen, J. K., Ferntree Gully, Friesian (4).										
Bolero Diana	3869 Vol. 12	30.11.33	23	8,745	3·95	345·78	310	Jr. 4	247, 271 ..	St. Albans Queen's Korndyke 2nd
Bolero Petronella's Medora	C.R.	13.12.33	25	7,200	3·41	245·45	230	Jr. 2	.. ..	St. Albans Queen's Korndyke 2nd
Bolero Rosebud Petronella	3359	30.11.33	25	10,892	3·92	426·48	310	Jr. 4	273, 336 ..	St. Albans Queen's Korndyke 2nd
Bolero Sylvia Clasina ..	C.R.	18.10.33	13½	8,711	3·30	287·75	230	Jr 2	.. ..	St. Albans Queen's Korndyke 2nd

* 210 days in test. † 240 days in test.

Standard Herd Records—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk. lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Vaughan Bros., Girgarre, Jersey (4).										
Lynroy Bluebell	38457	1.10.33	N.O.C.	8,519	5·39	458·90	330	Sr. 4	371, 464, 458	Sherborne King Wyandotte's
Lynroy Gladys	38462	29.9.33	N.O.C.	8,261	5·72	472·30	330	Sr. 4	433, 470 ..	Sherbourne King Wynadotte's
Lynroy Valmai	C.R.	18.10.33	8	4,186	6·02	251·81	230	Jr. 2	.. ..	Sherborne King Wyandotte's
Lynroy Viola 3rd ..	38467	1.11.33	12½	6,491	6·26	406·07	310	Jr. 4	335, 382, 382..	Sherborne King Wyandotte's
Wade, W. J., Stratford, Jersey (1).										
Jerseyholm Daisy 17th ..	28753	16.11.33	8	5,097	5·70	290·60	330	Sr. 4	.. ..	Lord Island Fancy of Brucevale
Walker, C. S., Swan Hill, Friesian (2).										
Burnbank Pietertje Violet ..	2390	28.10.33	22	10,238	3·59	368·00	350	Mature	341, 517 ..	Burnbank Pietertje Dellhurst
Speewa Piebe Violet ..	4259	8.11.33	23½	12,497	3·51	438·22	310	Jr. 4	375, 325 ..	Burnbank Piebe Leonara
Walker, C. S., Swan Hill, Jersey (5).										
Peri Vanilla 2nd	23367	8.11.33	6½	5,415	5·52	298·81	350	Mature	220, 313, 299, 339, 266, 328	Peerless Eclipse of Meadowvale
Warwick Augustus Marie ..	38486	23.10.33	16½	7,298	4·77	347·88	310	Jr. 4	339, 433 ..	Chevrolet of Banyule
Warwick Birdie	42447	19.12.33	13	7,667	5·42	415·84	270	Jr. 3	423 ..	Warwick Chief
*Warwick Polly 2nd ..	C.R.	13.11.33	4	4,395	5·17	227·34	230	Jr. 2	.. ..	Preston Star King
Warwick Brunette 2nd ..	C.R.	1.10.33	4	5,085	4·88	248·34	230	Jr. 2	.. ..	Preston Star King
Wallace, A., Bendigo, Ayrshire (1).										
Spring Dale Duchess ..	18938	8.10.33	..	7,520	3·95	297·37	350	Mature	297, 262, 266, 296	Ben Kell Dainty Don
Wallace, A., Bendigo, Jersey (1).										
Preston Busy Bee ..	38501	8.10.33	..	6,502	4·46	290·10	310	Jr. 4	232, 286 ..	Preston Pretty Boy
Warragul High School, Warragul, Red Poll (6).										
Gipps Barbara	3120B	10.12.33	9½	3,807	4·36	166·13	270	Jr. 3	230 ..	Woodburn Laureate
Gipps Christina	2874A	24.11.33	11	4,029	5·46	220·18	270	Jr. 3	250 ..	Woodburn Laureate
Gipps Dorothea	2875A	28.9.33	10½	4,355	4·71	205·13	270	Jr. 3	216 ..	Woodburn Laureate
Gipps Ginerva	C.R.	20.12.33	9	4,889	4.06	198.40	230	Jr. 2	.. ..	Gipps Byron
Gipps Marie	2878A	10.12.33	7	4,773	4·38	209·24	270	Jr. 3	241 ..	Woodburn Laureate
Gipps Zora	2883A	15.10.33	10	6,669	3·99	266·12	270	Jr. 3	237 ..	Woodburn Laureate
Watts, J. S., Stanhope, Jersey (6).										
Langi Fairy Girl	40627	28.11.33	N.O.C.	6,323	6·08	384·54	270	Jr. 3	404 ..	Kantarra Monarch Starbright's
Langi Fashion Girl ..	33895	4.12.33	N.O.C.	4,265	7·14	304·53	310	Jr. 4	202, 283, 329	Kantarra Monarch Starbright's
Langi Jess	40629	16.12.33	17½	5,383	5·23	281·37	270	Jr. 3	263 ..	Kantarra Monarch Starbright's
Langi Princess	33897	18.12.33	21	6,823	5·59	381·27	290	Sr. 3	315, 419 ..	Kantarra Monarch Starbright's
Langi Roseleaf	C.R.	24.11.33	13½	4,556	5·40	245·84	230	Jr. 2	.. ..	Kantarra Monarch Starbright's
Langi Vesta	C.R.	27.10.33	13½	5,279	5·28	278·52	230	Jr. 2	.. ..	Kantarra Monarch Starbright's
Webb, H. L., Sunbury, Ayrshire (3).										
Holly Green Queenly ..	18275	29.9.33	15½	7,091	4·10	290·89	350	Mature	228, 302, 341	Holly Green Masher
Holly Green Quest's Jewel ..	24025	29.9.33	7½	5,306	3·81	202·02	270	Jr. 3	242 ..	Holly Green Gold Coin
†Holly Green Marita ..	15628	6.10.33	4	3,548	4·38	155·57	350	Mature	158, 210, 115, 277, 334	Holly Green Lily's Record
West, J. C., Notting Hill, Illawarra Shorthorn (2).										
Middlemount Reddie 2nd ..	15161	13.10.33	17½	9,224	3·89	358·46	350	Mature	247, 404 ..	Earl of Glenburn
Rockleigh Dove 2nd ..	14767	28.9.33	17	9,845	3·90	383·72	350	Mature	381 ..	Marion's Hero of Hillview
White, Russell, Cardigan, Ayrshire (4).										
†Ayrvale Sylvia	24568	2.10.33	4	6,855	3·86	264·51	250	Sr. 2	250 ..	Sparrovale Sir Percy
Ayrvale Trixie	24569	3.10.33	12	6,453	3·94	254·20	230	Jr. 2	.. ..	Sparrovale Sir Percy
‡Cathcart Fuchsia ..	22591	1.12.33	4	7,164	5·08	363·61	310	Jr. 4	357 ..	Ben Kell Watford
The Valley Quality ..	14920	7.11.33	4	5,505	3·55	195·50	350	Mature	228 ..	Liberty of Lady Bank
Williams, F. A., Bamawm, Jersey (2).										
Ballara Bonnie	33911	18.10.33	20½	9,417	6·68	629·00	310	Jr. 4	402, 565 ..	Brucevale Lord Fancy Madeira
Taranah Ruby	C.R.	12.12.33	15	5,306	5·28	279·94	230	Jr. 2	.. ..	Duke of Invermay
Wilson, D. C., Derrinallum, Jersey (1).										
Ayton Law Tressa ..	Vol. 21	14.10.33	11½	4,180	5·40	225·90	270	Jr. 3	284 ..	Ayton Law Quality's 2nd

* 210 days in test. † 240 days in test. ‡ 269 days in test.

STANDARD HERD RECORDS—*continued.*

Name of Cow.	Herd Book No.	Date of Calving.	Milk last day of Test. lb.	Milk lb.	Average Test.	Butter Fat. lb.	Standard required.	Class.	Previous Yields of Butter Fat.	Sire.
Watson, D. W., Glen Iris, Jersey (1).										
Ear Park Heather Belle ..	29305	1.10.33	16½	5,684	5·69	323·23	330	Sr. 4	305 ..	Ear Park Snow's Audrey's Prince
Wood, J. V. M., Heidelberg, Jersey (5).										
Champion's Victorious ..	33954	28.11.33	16	6,944	5·61	389·75	330	Sr. 4	342, 356 ..	Easter Lily's Champion
Clarendon Eyre Belladonna 2nd	39243	4.11.33	21	9,693	5·24	508·26	270	Jr. 3	485 ..	Clarendon Eyre Happy Husband
Clarendon Eyre Firefly 3rd	Vol. 21	11.10.33	16	5,748	6·05	347·77	250	Sr. 2	.. ..	Clarendon Eyre Eminent's Sorcerer
Clarendon Eyre Primrose ..	39256	6.10.33	19½	7,358	4·63	340·77	270	Jr. 3	385 ..	Clarendon Eyre Eminent's Bing Boy
Clarendon Eyre Rose Marie 3rd	39258	21.11.33	19	8,147	5·94	484·05	270	Jr. 3	410 ..	Eminent's Achievement of Clarendon Eyre
Xavier College, Kew, Jersey (5).										
Belle Vue Blue Bell ..	C.R.	17.10.33	15	5,556	4·80	266·47	230	Jr. 2	.. ..	Goldfinder (Imp.)
Hartland's Symphony ..	37748	12.10.33	17½	6,014	4·39	264·30	310	Jr. 4	.. ..	Merry Boy of Kirkhill
Hillcrest Sunrise	26027	7.12.33	25	7,478	4·28	319·93	350	Mature	.. ..	Gold Bar of Hill Crest
Taranah Tassel	33490	27.9.33	7½	4,889	4·90	239·54	310	Jr. 4	335, 322 ..	Duke of Invermay
Xavier Greta	C.R.	19.12.33	26	5,951	4·40	261·89	230	Jr. 2	.. ..	Rosecliff Mariposa's Master

CORRECTION.

Scotswood Peeress, owned by A. H. Schier, reported in quarter ending 30th June and annual report as a Senior 2-year-old, should be Junior 3.

TESTED SIRES

Hereunder is a list of sires one or more of whose progeny in the test for the quarter ended 30th September last yielded 100 lb. butter-fat in excess of that required to qualify for certificate. The quantity of butter-fat required for certificate in the various classes plus the additional 100 lb. is indicated at the top of the several columns, and the figures shown opposite the name of each sire are the yields of butter-fat from individual heifers or cows by that sire.

Name of Sire.	Breed.	CLASS.						
		Jr. 2 330 lb.	Sr. 2 350 lb.	Jr. 3 370 lb.	Sr. 3 390 lb.	Jr. 4 410 lb.	Sr. 4 430 lb.	Mature 450 lb.
Airlie Goldfinder	Jersey	334	..	..	..	..	..	..
Avalon Gladstar 2nd	Jersey	..	..	373	..	..	..	..
Aveley, Uranus of	Jersey	..	..	..	..	..	..	453
Ballara His Majesty	Jersey	..	..	460	..	410	..	..
Banyule Aeronaut	Jersey	..	..	..	..	..	..	530
Air Lord of Banyule	Jersey	..	..	..	440	..	..	..
Choirmaster of Banyule ..	Jersey	..	..	..	..	451	..	..
Banyule Endeavour	Jersey	339	..	..	..	..	..	..
Banyule Fuselage	Jersey	..	..	..	..	433	..	..
Hedge of Banyule	Jersey	332	..	..	..	..	..	..
Banyule Macon	Jersey	346	..	..	..	..	..	..
Banyule Patalon 2nd	Jersey	350	..	..	453	..	..	..
Superstrain of Banyule ..	Jersey	..	..	..	..	..	..	461
Banyule Triplane	Jersey	..	450	..	..	..	..	..
Beleura Pensive	Ayrshire	..	..	385	..	..	..	..
Belgonia Air King	Jersey	..	399	389	..	..	..	..
Choice Prince of Belgonia ..	Jersey	..	..	..	..	431	..	489
Bellaire Noble 2nd	Jersey	..	..	..	..	..	..	450
Bellefaire Blonde's Blondex ..	Jersey	330	..	..	..	..	..	..
Bellum Victor	Red Poll	..	..	..	..	..	..	481
Poppy's Advance of Ben Kell ..	Ayrshire	..	..	..	..	..	..	552
Brucevale Fancy Attraction ..	Jersey	365	..	..	..	..	..	..
Brucevale Lord Fancy Madeira ..	Jersey	..	..	..	..	629	..	..
Lord Island Fancy of Brucevale ..	Jersey	..	..	379	..	..	..	493
Burnbank Piebe Leonara	Friesian	..	..	..	..	438	..	..
Burnside Harmony	Jersey	..	..	..	..	430	..	..
Lloyd of Cathcart	Ayrshire	..	390	..	..	..	..	..

TESTED SIRES.—*continued.*

Name of Sire.	Breed.	Class.						
		Jr. 2 330 lb.	Sr. 2 350 lb.	Jr. 3 370 lb.	Sr. 3 390 lb.	Jr. 4 410 lb.	Sr. 4 430 lb.	Mature 450 lb.
Clarendon Eyre Happy Husband	Jersey	..	..	508 469	..	..	..	..
Clarendon Eyre Eminent's Achievement	Jersey	..	..	484	..	..	..	..
Clifford Farm Eliminator	Jersey	411	..	..	..	..	..	..
Columbine Antimony	Jersey	..	..	..	..	..	..	472
Gadabout of Danton	Jersey	..	..	..	..	..	..	477
Dandy Masterpiece	Ayrshire	..	..	384	..	..	..	..
Fairbank Peter	Jersey	..	..	..	479	..	..	..
Blackthorn of Fairview	Jersey	..	..	..	403	..	..	..
Glenallen Mariposa	Jersey	..	..	..	397	..	..	..
Mercedes Chief of Glen Iris	Jersey	..	..	..	..	..	..	625
Dandy of Grangelea	Jersey	..	..	..	..	..	..	483
Hamlet's You'll Do	Jersey	..	..	..	..	..	..	572
Duke of Invermay	Jersey	366	433	..	..	..	..	..
Handsome Boy 3rd of Jerseyholm	Jersey	..	..	..	..	..	..	510
Jerseyholm Island King 7th	Jersey	..	..	422	..	..	..	..
Jessie's Handsome Boy	Jersey	..	..	..	..	..	..	483
Jubilee Lifelight	Jersey	..	..	..	..	..	..	472
Jubilee Whatlight	Jersey	..	..	..	405	..	..	..
Kantara Starbright's Monarch	Jersey	..	..	385	..	..	..	..
Karalee Duke	Jersey	..	..	..	..	459	..	..
Ku Ku Fashion Plate	Jersey	..	..	..	..	..	..	479
La Sente's Lord Aldan (Imp.)	Jersey	455	..	..	..	..	..	..
Melview Vanilla's Starbright Lad	Jersey	359	..	..	..	..	..	..
Olive Dale Chum	Ayrshire	..	..	..	..	457	..	..
Royal Remus of Overlook	Jersey	..	..	..	487	..	..	..
Rosemont Primrose 2nd Noble	Jersey	..	..	..	..	..	..	475 475
Scotswood Michael 2nd	Ayrshire	..	..	..	..	456	..	..
Sherborne Wyandotte's King	Jersey	..	..	..	..	..	459 472	..
Somerville Reputation	Jersey	..	..	..	..	..	726	..
Royal Gem of Somerville	Jersey	..	..	..	..	..	..	450
Hot Stuff of Sparrovale	Ayrshire	..	..	..	..	..	..	476
St. Alban's Queen's Korndyke 2nd	Friesian	..	..	..	..	426	..	..
Studleigh Masterpiece	Jersey	..	..	..	..	419	..	..
Studleigh Noble	Jersey	..	..	..	..	..	..	498
Mistletoe 2nd V.C. of Tarnpirr	Jersey	..	..	..	..	..	..	475 454
The Wattles Northern Duke	Jersey	..	..	..	394	..	..	..
Tooravale Goldspeck	Jersey	..	..	501	..	..	..	..
Toorongo Mac	Jersey	340	..	..	..	..	..	..
Ventures Hero	Jersey	..	..	..	..	..	..	466
Victoria Joyous Mercedes	Friesian	..	..	419	..	435	..	539
Werribee Cream's Masterpiece	Jersey	..	350	..	..	..	..	..
Dawn of Warenda	Jersey	..	..	..	..	..	..	553
Warwick Chief	Jersey	..	..	416	..	..	..	..
Werribee Gaypiece	Jersey	..	..	..	..	..	..	567
Werribee Grandmaster	Jersey	..	572	..	..	..	..	..
Werribee Masterman	Jersey	..	..	..	..	430	..	..
Werribee Northern Masterpiece	Jersey	..	..	..	..	..	..	463
Werribee Prince Madeira	Jersey	331	434	489	..	..	..	..
Werribee Wyandotte's King	Jersey	..	389	..	..	..	..	..
Willow Park Banker 2nd	Dairy Shorthorn	..	..	381	..	..	..	..
Willow Park Design	Dairy Shorthorn	..	..	..	..	..	..	516
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Willow Park Reflector	Dairy Shorthorn	..	371	..	..	433	..	..
Willow Park Stratagem	Dairy Shorthorn	..	..	..	..	..	..	460
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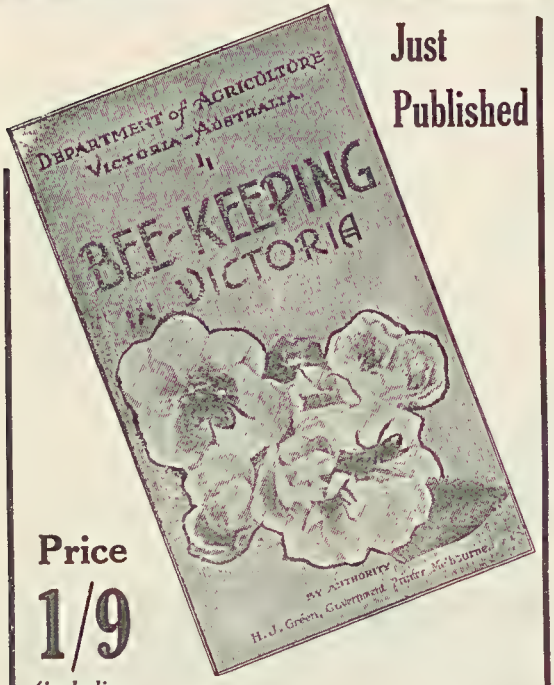

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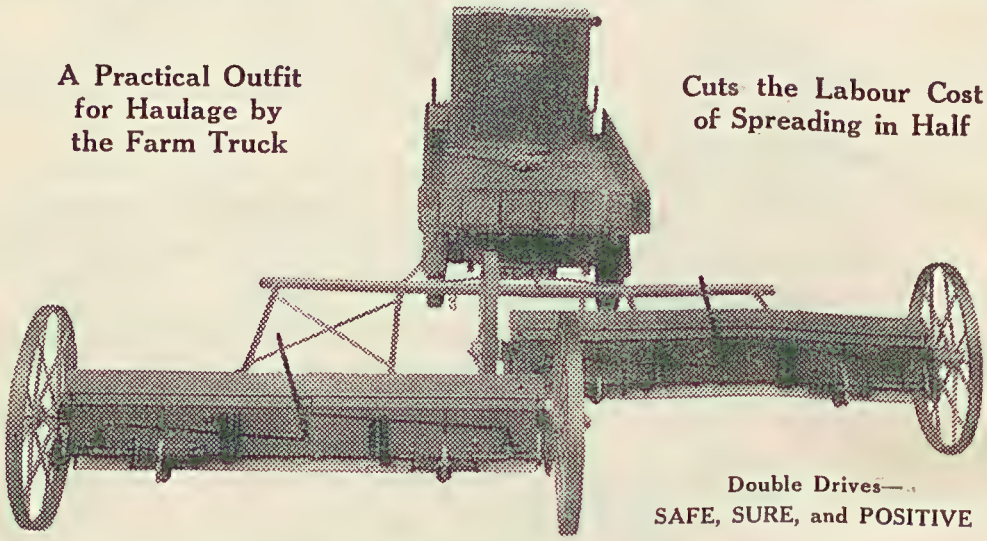

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Name of Cow	Milk	Test	Butter-fat
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Victoria Lean Patch (1705) ..	15,395	3·49	537·74
Victoria Domino Patch (3255) ..	12,534	3·52	441·23
Victoria Tinkle Bell (3266) ..	11,988	3·39	406·24
Victoria Top Patch (2634) ..	10,533	3·81	401·17
SENIOR 4-YEAR-OLD			
Victoria Joyous Piebe (3259) ..	13,528	3·70	500·38
JUNIOR 4-YEAR-OLD			
Victoria Soprano (3265) ..	13,341	3·40	454·15
SENIOR 3-YEAR-OLD			
Victoria Quilt (3767)	11,207	4·28	479·84
JUNIOR 3-YEAR-OLD			
Victoria Songstress (3768) ..	10,767	3·22	346·78
JUNIOR 2-YEAR-OLD			
Victoria Chorus Girl (3759) ..	10,937	3·72	407·13
Victoria Eminence (3762) ..	11,174	3·57	399·31
Victoria Streaky Patch (3769) ..	11,085	3·60	399·08
Victoria Ilkedes (3763)	9,939	3·83	380·81
Victoria Joy Top (3764) ..	9,251	3·90	360·61
Victoria War Oak (3770) ..	9,198	3·49	320·83

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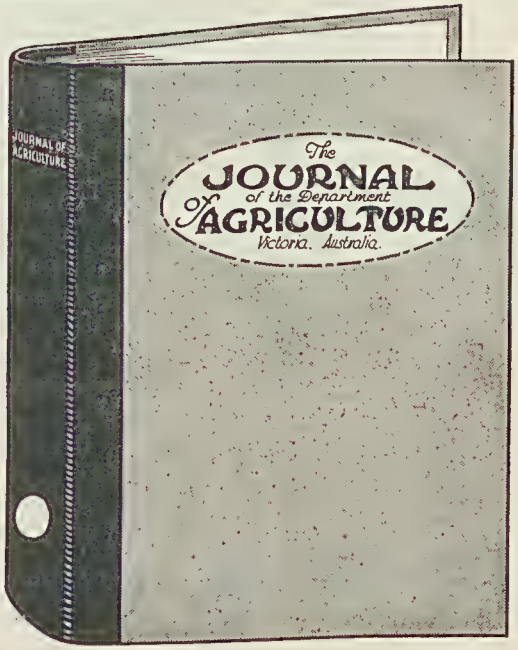

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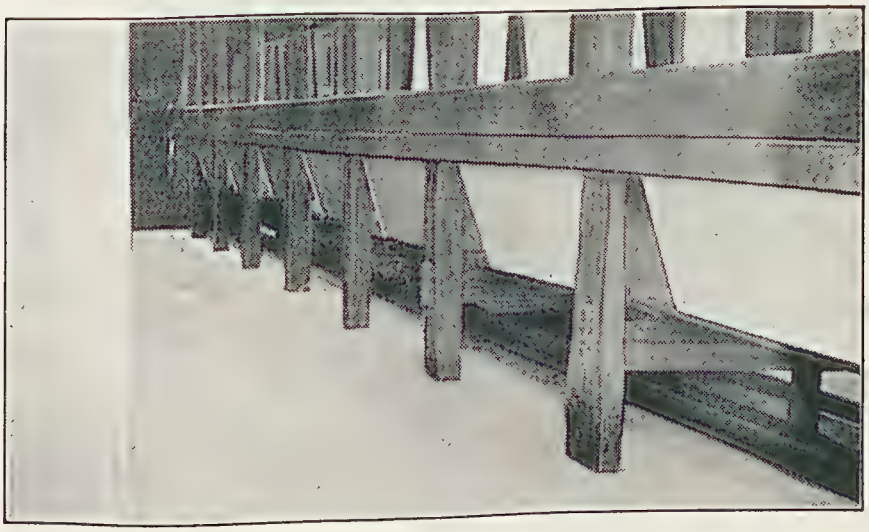

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8 oz. sultanas.
8 oz. currants.
8 oz. raisins.
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½ packet spice.
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½ teaspoon cinnamon.
Grated rind and juice of 1 lemon.
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OF THE

HON. J. ALLAN, M.L.A.,

Minister of Agriculture.

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VOLUME XXXII.

1934.

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